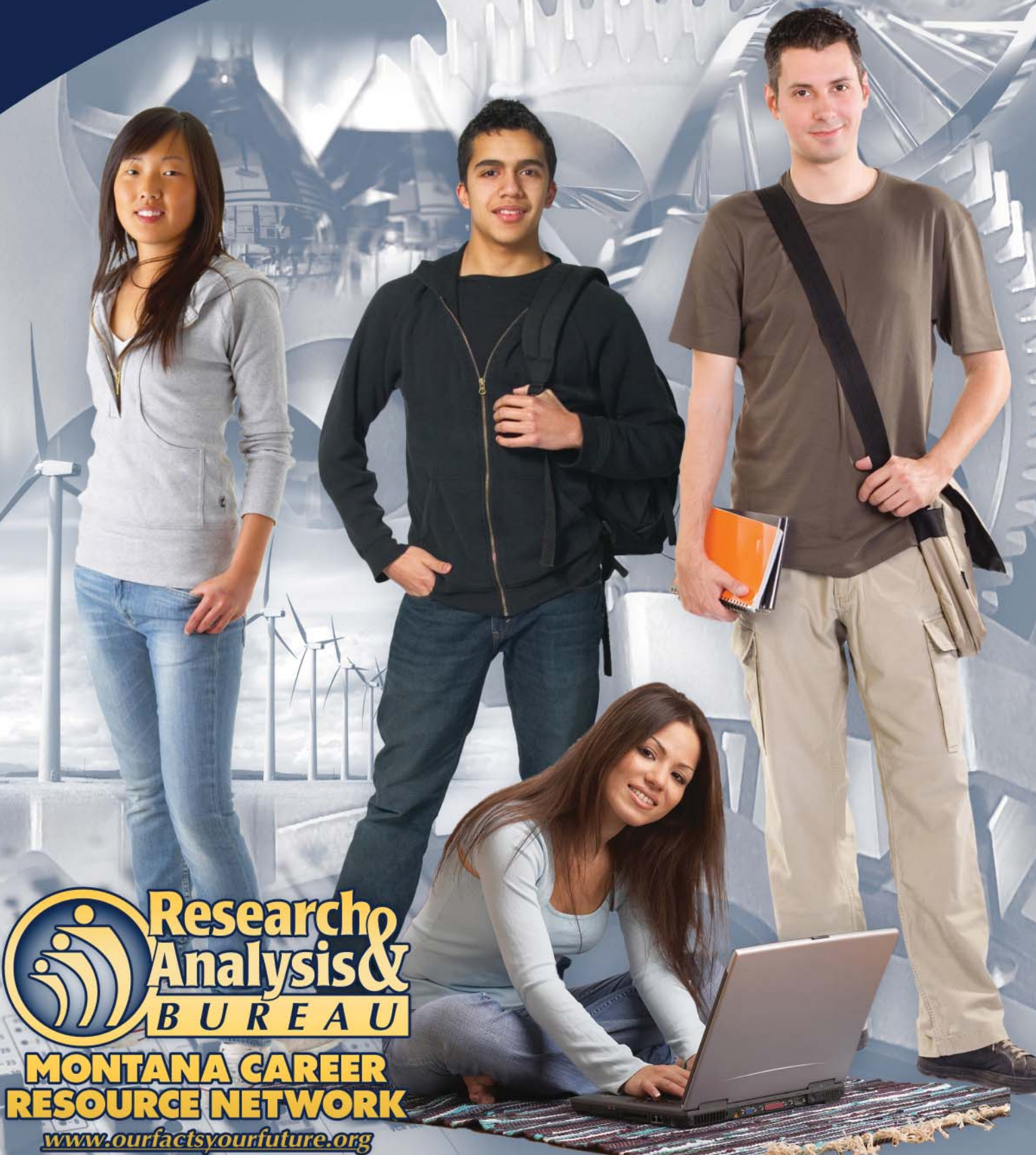


MONTANA **CAREER GUIDE 2008**



**MONTANA CAREER
RESOURCE NETWORK**

www.ourfactsyourfuture.org

MONTANA CAREER GUIDE 2008

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RESOURCE NETWORK**

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WHAT'S INSIDE?

<i>Introduction: Why Use This Guide?</i>	2
<i>Interest Assessment</i>	3
<i>Investigating Careers: Gaining Experience</i>	5
<i>Reality Check: The High Cost of Lifestyle</i>	7
<i>Education Pays</i>	9
<i>College Entrance Requirements</i>	10
<i>Higher Education & Vocational Training</i>	11
<i>Montana Schools</i>	12
<i>Apprenticeship Programs</i>	13
<i>Financial Aid</i>	14
<i>In-Demand Job Skills</i>	16
<i>The Job Search</i>	18
<i>Job Service Workforce Center Locations</i>	19
<i>Marketing Yourself</i>	20
<i>Cover Letters</i>	22
<i>Resumes</i>	23
<i>The Job Interview</i>	24
<i>Job Seeker Resources</i>	25
<i>Occupations Guide</i>	26
<i>Arts and Communications Cluster:</i>	
<i>Arts, A/V Technology, & Communications Occupations</i>	27
<i>Business, Management, and Information Systems Cluster:</i>	
<i>Business, Management, and Administration Occupations</i>	30
<i>Finance Occupations</i>	33
<i>Hospitality & Tourism Occupations</i>	36
<i>Information Technology Occupations</i>	40
<i>Marketing, Sales, & Service</i>	43
<i>Environmental and Agricultural Systems Cluster:</i>	
<i>Agriculture, Food, & Natural Resources Occupations</i>	47
<i>Health Sciences Cluster:</i>	
<i>Health Sciences Occupations</i>	51
<i>Human Services and Resources Cluster:</i>	
<i>Education & Training Occupations</i>	55
<i>Government & Public Administration Occupations</i>	58
<i>Human Services Occupations</i>	60
<i>Law, Public Safety, & Security Occupations</i>	63
<i>Industrial, Manufacturing, and Engineering Systems Cluster:</i>	
<i>Architecture & Construction Occupations</i>	65
<i>Manufacturing Occupations</i>	69
<i>Science, Technology, Engineering, & Mathematics Occupations</i>	71
<i>Transportation, Distribution, & Logistics Occupations</i>	73

INTRODUCTION: WHY USE THIS GUIDE?



In high school, the single most annoying question, and the one we seemed to get asked on a weekly basis, was “What do you want to do for a living?” The standard reply was, “How am I supposed to know? I’m only a sophomore!” To this, the usual response was, “That’s the time to start planning.” We didn’t know it then, but all those annoying teachers and relatives were right.

Consider this, if you wait until your senior year to decide on a career path, you may find that the type of college you want to attend requires four years of math in high school. Suppose you didn’t sign up for a math class this semester? By not planning ahead, you’ve severely limited your options.

But don’t panic (there you go, take nice deep breaths). Now remember, you are not “deciding what you want to do for the rest of your life.” Chances are, you’re going to change your mind several times along the way, and that’s okay. Only through experience do we learn what kind of work we are best suited for. That’s why it is so important to begin exploring careers early--so we have time to find out what we like and dislike about a number of jobs before committing to a certain path. And it is a commitment, of both time and money. Most jobs that pay a decent wage require a good deal of training and education. Before you shell out the bucks to attend a university, it’s a good idea to have set some clear goals for yourself.

The purpose of this guide is to help you take the first step in setting career goals. Whether you’ve known what job you want since the second grade, or have no idea what kind of jobs are out there, this guide can help. Inside you’ll find an interest assessment that will help you match up your interests with specific jobs. You’ll find an occupations guide that describes over two hundred of the top occupations in Montana, tells you how fast each is growing and what level of education is required, and lists low, median, and high-end wages. There are also sections that will help you choose a training program, gain necessary work experience, market your skills in a resume, and interview for a job.

Whether you are a high school sophomore considering careers for the first time, a stay-at-home-parent re-entering the workforce after several years, or someone just looking for a new line of work, this guide has valuable information for you. Good luck and happy hunting!

WHAT'S YOUR CALLING?

Some people report having had a “calling” to their chosen profession, meaning that they instinctively knew which job they were best suited to do.

For the rest of us, it's not so easy.

Even if you have no idea what career you'd like to pursue, you know that you'll want a job that matches your personality and interests. Discovering who you are and what you want out of life is probably the most important step in the career decision-making process. Unfortunately, it's also a step many people neglect when making major life decisions.

Experts agree that work satisfaction depends on matching your personality with your work environment. Working full-time can add up to 80,000 hours of work during your lifetime. Considering the number of hours of your life at stake, the amount of time it takes to do a self-assessment is negligible.

Your likes and dislikes are extremely important in your career planning. They will supply you with ideas of what types of work will suit you best. The following interest assessment is based on Holland's Interest Inventory. Mark the circle following each statement you agree with. When you are finished, add the number of marks in each column. The three letters with the highest scores are your “interest profile.”

You can use your interest profile to match your interests with specific occupations. Just flip to the occupations guide (page 26) and look in the second

MCIS Assessment Resources

The Montana Career Information System (MCIS) is available through most Montana high schools, all Montana Job Service Workforce Centers, and at home for free at www.smartaboutcollege.org.

IDEAS Assessment

Learn which occupations match your interests
(This assessment not available through www.smartaboutcollege.org)

Micro SKILLS Assessment

Allows you to match your skills with specific occupations

O*Net Interest Profiler

Identify your strongest work-related interests

Work Importance Locator

Find out which work values are most important to you, then explore occupations that match your values.

column. You'll find interest profiles marked for each occupation. And remember, you don't have to limit yourself only to occupations that match your profile exactly. This exercise will just give you an idea of where to start looking.



INTEREST ASSESSMENT

I LIKE TO...

...do puzzles		<input type="radio"/>				
...work on cars	<input type="radio"/>					
...work independently			<input type="radio"/>			
...work in teams				<input type="radio"/>		
...organize things like files, offices, or activities						<input type="radio"/>
...set goals for myself					<input type="radio"/>	
...build things	<input type="radio"/>					
...read about art or music			<input type="radio"/>			
...have clear instructions to follow						<input type="radio"/>
...influence or persuade people					<input type="radio"/>	
...do experiments		<input type="radio"/>				
...teach or train people				<input type="radio"/>		
...help people solve their problems				<input type="radio"/>		
...take care of animals	<input type="radio"/>					
...have my day structured						<input type="radio"/>
...sell things					<input type="radio"/>	
...do creative writing			<input type="radio"/>			
...work on science projects		<input type="radio"/>				
...take on new responsibilities					<input type="radio"/>	
...heal people				<input type="radio"/>		
...figure out how things work		<input type="radio"/>				
...put things together or assemble models	<input type="radio"/>					
...be creative			<input type="radio"/>			
...pay attention to details						<input type="radio"/>
...do filing or typing						<input type="radio"/>
...learn about other cultures				<input type="radio"/>		
...analyze problems, situations, or trends		<input type="radio"/>				
...play instruments or sing			<input type="radio"/>			
...dream about starting my own business					<input type="radio"/>	
...cook	<input type="radio"/>					
...act in plays			<input type="radio"/>			
...think things through before making decisions	<input type="radio"/>					
...work with numbers or charts		<input type="radio"/>				
...discuss current events or politics				<input type="radio"/>		
...keep records of my work						<input type="radio"/>
...be a leader					<input type="radio"/>	
...work outdoors	<input type="radio"/>					
...work in an office						<input type="radio"/>
...work on math problems		<input type="radio"/>				
...help people				<input type="radio"/>		
...draw			<input type="radio"/>			
...give speeches					<input type="radio"/>	

YOUR INTEREST PROFILE:

Add ➡
Each
Column

R I A S E C

⬅ Write your top three totals here

Assessment exercise adapted from
Mncareers 2005 www.mncareers.org

WHAT THE LETTERS MEAN:

REALISTIC

Realistic people are often good at mechanical or athletic jobs. They like to work with things, like machines, tools, or plants, and they like to work with their hands. They are often practical and good at solving problems.

INVESTIGATIVE

Investigative people like to watch, learn, analyze and solve problems. They often like to work independently, tend to be good at math and science, and enjoy analyzing data.

ARTISTIC

Artistic people like to work in unstructured situations where they can use their creativity and come up with new ideas. They enjoy performing (theater or music) and visual arts.

SOCIAL

Social people like to work directly with people rather than things. They enjoy training, instructing, counseling, or curing others. They are often good public speakers with helpful, empathetic personalities.

ENTERPRISING

Enterprising people like to work with other people. They particularly enjoy influencing, persuading, and performing. They like to lead and tend to be assertive and enthusiastic.

CONVENTIONAL

Conventional people are very detail oriented and like to work with data. They have good organizational and numerical abilities and are good at following instructions. Conventional people also like working in structured situations.

Sometimes our ideas about a career have little to do with its reality. This is why it is so important to investigate a possible career before you decide to pursue it. Unfortunately, this step in career planning is the one most often skipped, since it does take some effort. However, considering the effort (not to mention money) it will take to earn a degree or license toward your chosen profession, it is well worth your time. Just imagine spending four years and thousands of dollars earning a degree, only to discover that the job you thought you wanted is nothing like you thought it would be. It happens.

Even if you're certain you know what a career entails, and that you want to pursue it, investigating that career is still worth your time. It will give you the chance to learn what employers in your field are looking for in an applicant. You'll also make important contacts in the industry. Never underestimate the importance of letting employers in your field know who you are and that you are interested in what they do.

By reading career descriptions in this guide, you've already taken the first step toward investigating careers, but now it is time to take the next step. You'll find there are a number of great ways to begin exploring careers. They include:

- Informational Interviews
- Job Shadowing
- Internships
- Volunteer Work
- Part-Time or Temporary Work

Informational Interviews

Informational interviews are the most direct way to find out about an occupation and to establish contacts. They also take less commitment than internships or part-time employment. All you need to do is find someone who has the kind of job you want and is willing to talk to you about it. Don't be afraid that you are wasting their time; you'd be surprised how many professionals are willing



to share their experience with an enthusiastic newcomer. Such interviews may even be helpful to employers, giving them the chance to communicate exactly the types of skills and training they need in new employees.

Questions to ask:

You probably won't have a lot of time, so choose only a few important questions. Here are some ideas:

- How did you get into this type of work? This job?
- What type of preparation/education/training did you have? What is required?
- What do you enjoy the most about your job? The least?
- What three skills do you use most often on the job?
- Describe a typical day or week at your job.
- What motivates you?
- Describe difficulties you regularly face on the job.
- What are the advancement opportunities and limits?
- What must a person know to stay competitive?

GAINING EXPERIENCE

- How does this job affect your home life?
- What are typical entry-level job titles and duties?
- Here are my strengths. How do they fit in this field?

When your time is almost up, end the interview. Thank the interviewee verbally and shake hands. Remember to ask for a business card, and to be referred to others who might be willing to grant you an interview. When you eventually do get a job, make sure to tell your interviewees about it—they'll want to know how your search ended.

Tips:

- Interview several people in each occupation – often people with the same job title perform very different tasks
- When you call, say how you got that person's name.
- Explain that you're seeking advice and experience
- Set a time limit for the interview (generally 15 to 20 minutes) and stick to it
- Take notes
- Do your research – you won't have a lot of time, so eliminate certain basic questions by researching about what the company does.
- Dress and act professionally
- Don't ask the person for a job in any way
- Follow up with a thank you note.

Job Shadowing

Job shadowing gives you a chance to directly observe someone on the job. You may spend anywhere from a few hours to a few days watching, listening, and asking questions as the employee performs their job. It's a great way to see firsthand the skills needed for a career you may be considering. Check out www.jobshadow.org for a complete job shadowing "How-To" guide.

Internships

Internships are basically short-term jobs that may last for a few weeks or a few months. They may be paid or unpaid positions, but for your time and labor, you'll gain on-the-job experience under the guidance of a supervisor, enhance your qualifications, and make valuable professional contacts.

Volunteer Work

Volunteer work may not earn you a paycheck, but it pays off in other ways. It looks great on a college application or resume, particularly if your work experience is limited. Like an internship, volunteer work gives you actual work experience and helps you make valuable professional contacts. Hospitals, schools, religious and political groups, child care and senior centers often need and welcome enthusiastic volunteers willing to give their time in exchange for practical experience.

Part-Time or Temporary Jobs

To many students, part-time and summer jobs are merely a way to earn some pocket money, but they don't have to be. Looking for part-time work related to your long-term career goals is a great way to gain experience, make contacts, and to help you decide if a certain career is right for you. If you haven't yet decided on long-term career goals, part-time jobs provide you with the opportunity to try out several types of work. Your part-time job may mean you have to deal with customers all day long, it may involve sitting in an office for long periods of time, or it may mean performing physically demanding tasks. Is this something you would enjoy doing on a permanent basis? Finding out you don't like something is as important as discovering the things you do enjoy. Remember, even if the part-time job doesn't turn out to be all that you'd hoped for, your good performance can provide you with great references for future positions.

REALITY CHECK: THE HIGH COST OF LIFESTYLE

"Money doesn't matter. I just want a job that I enjoy doing." It's a phrase one hears all the time when the subject of career planning comes up. But have you ever considered the type of lifestyle your dream job will buy you? Check out the four lifestyles described below, then flip the page you see what you'd need to earn to afford to live that way.

LIFESTYLE A:

Residence:	Monthly Cost:
Small Apartment/Trailer Rent:	\$500
Utilities/Phone/Etc.:	\$100

Transportation:	
Used Car Payment:	\$100
Vehicle Maintenance, Insurance, & Fuel:	\$100

Other Costs:	
Groceries:	\$250
Clothing:	\$40
Leisure Activities:	\$100
Misc. Household Items, Haircuts, etc.:	\$50

Savings:	\$50
----------	------

Total Monthly Cost of Lifestyle A: \$1,290

LIFESTYLE B:

Residence:	MONTHLY COST:
Starter Home Payment/Rent:	\$650
Utilities/Phone/Etc.:	\$195

Transportation:	
Compact Car/Van Payment:	\$250
Vehicle Maintenance, Insurance, & Fuel:	\$150

Other Costs:	
Groceries:	\$300
Clothing:	\$75
Leisure Activities:	\$100
Misc. Household Items, Haircuts, etc.:	\$75

Savings:	\$150
----------	-------

Total Monthly Cost of Lifestyle A: \$2,000

LIFESTYLE C:

Residence:	Monthly Cost:
Moderately-Priced House Payment:	\$900
Utilities/Phone/Etc.:	\$270

Transportation:	
4WD Car/Sedan Payment:	\$350
Vehicle Maintenance, Insurance, & Fuel:	\$150

Other Costs:	
Groceries:	\$325
Clothing:	\$100
Leisure Activities:	\$175
Misc. Household Items, Haircuts, etc.:	\$100

Savings:	\$200
----------	-------

Total Monthly Cost of Lifestyle A: \$2,545

LIFESTYLE D:

Residence:	Monthly Cost:
High-End Luxury Home Payment:	\$2,500
Utilities/Phone/Etc.:	\$750

Transportation:	
Luxury Automobile Payment:	\$700
Vehicle Maintenance, Insurance, & Fuel:	\$400

Other Costs:	
Groceries:	\$800
Clothing:	\$300
Leisure Activities:	\$500
Misc. Household Items, Haircuts, etc.:	\$300

Savings:	\$625
----------	-------

Total Monthly Cost of Lifestyle A: \$6,875

GED/High School Diploma

Your job will generally require little or no experience, have few opportunities for advancement, and rarely include retirement or health benefits.

	Monthly:
Wages @ \$6.25/hour:	\$1,083
Taxes, Social Security, Medicare:	-\$165
Retirement Plan: (Generally not available)	\$0
Total Available Income:	\$918



You're gonna need a second job to afford your own place. That or move back in with your folks.

High School + 2 Year College or Specialty Training

Your job will require experience and prior training (apprenticeship, long term on-the-job training, Associate degree). Health insurance may be provided for employee and retirement plan may be an option.

	Monthly:
Wages @ \$16/hour:	\$2,773
Taxes, Social Security, Medicare:	-\$623
Retirement Plan:	-\$156
Total Available Income:	\$1,994



You're doing OK for one person, but it will be hard to support a family on your income.

Specialty Training/Bachelor's Degree

Your job will require work related experience and the equivalent of a Bachelor's degree or beyond. Health Insurance and retirement benefits will generally be available.

	Monthly:
Wages @ \$21/hour:	\$3,640
Taxes, Social Security, Medicare:	-\$910
Retirement Plan:	-\$218
Total Available Income:	\$2,512



You make a decent living. You don't live in the lap of luxury, but you're comfortable. You may need to advance in your career to put your kids through college or buy a boat.

Advanced Education/Entrepreneur

Your job will require advanced education and/or extensive skill, high-level decision-making abilities, and responsibility. Or you could become a rock star.

	Monthly:
Wages @ \$70/hour:	\$12,133
Taxes, Social Security, Medicare:	-\$3,640
Retirement Plan:	-\$728
Total Available Income:	\$7,765

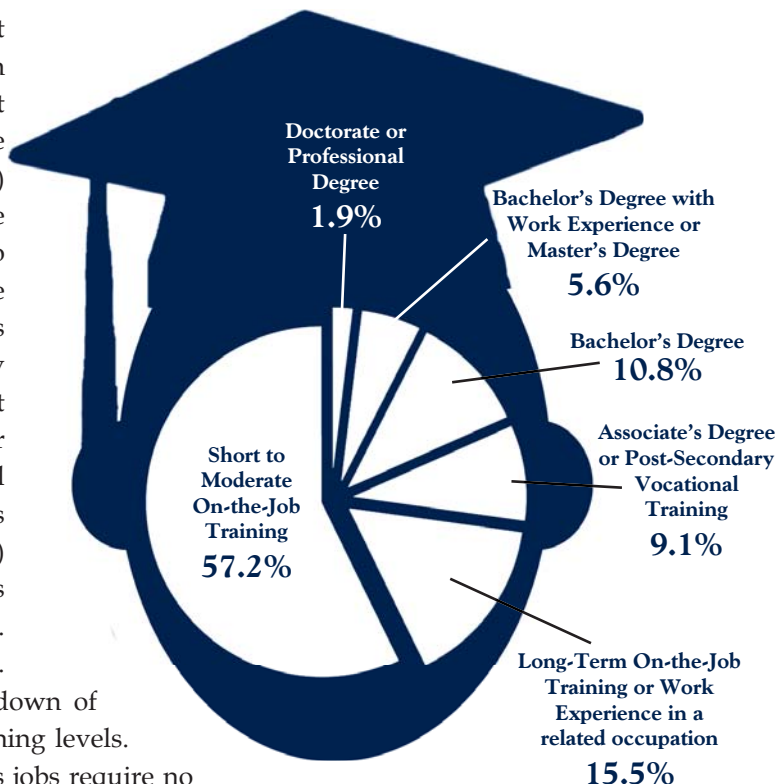


You've made it! You're one of the lucky few. But don't blow your whole fortune on Bentleys and Cristal. You still need to save and invest wisely to maintain this lifestyle into retirement.

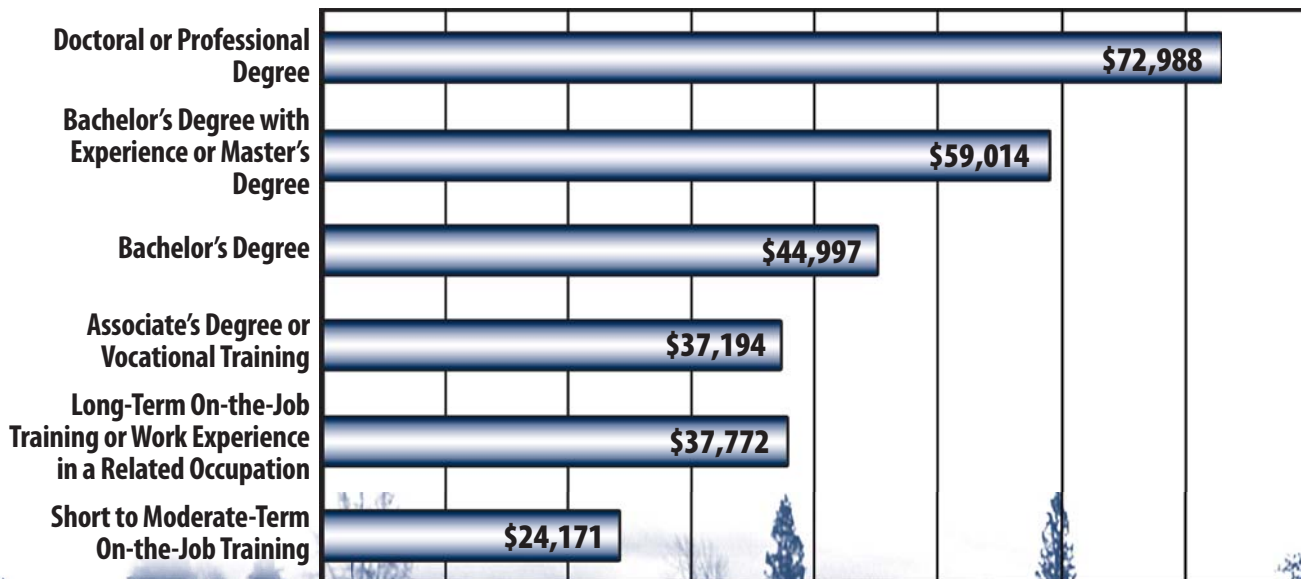
THE ROAD TO RICHES IS PAVED BY EDUCATION...

...or so the numbers suggest. The chart below shows that your level of education makes a substantial difference in the amount you earn. For example, the average wage for someone with a Bachelor's (four-year) degree is almost twice that of someone working a job requiring only short to moderate-term on-the-job training; while people with doctoral or professional degrees (physicians, lawyers, etc.) earned nearly three times as much. But workers do not need that much education to earn a bigger paycheck; simply completing high school (or earning a GED) increases Montanan's median earnings by \$6,462 (almost 40%) annually, according to the U.S. Census Bureau's American Community Survey. The numbers don't lie; education pays. The pie chart to the right shows a breakdown of Montana jobs based on education and training levels. As you can see, well over half of the state's jobs require no education beyond high school. Keep in mind that these jobs generally pay less, and many Montanans work more than one job to make ends meet. The more education you have, the greater advantage you'll have in a competitive job market.

MONTANA JOBS BY TRAINING REQUIREMENTS



MONTANA AVERAGE WAGES FOR FULL-TIME WORKERS AGES 25 AND OLDER, BY EDUCATIONAL ATTAINMENT, 2007



COLLEGE ENTRANCE REQUIREMENTS

Even if you're not sure you want to continue your education after high school, it is a good idea to choose your classes as if you were. That way, you'll have completed the required coursework should you change your mind later. But what classes should you take? The following lists detail course requirements for entrance into the Montana university system, as well as recommended courses for other training paths.

ENTRANCE REQUIREMENTS FOR MONTANA'S UNIVERSITY SYSTEM:

English:

4 years - emphasis on written and oral communication skills and literature

Social Studies:

3 years - includes global studies, American history, government, economics, Indian history or other third year courses

Mathematics:

3 years - includes Algebra I, Geometry, and Algebra II

Laboratory Science:

2 years - includes earth science, biology, chemistry, physics

Additional 2 years chosen from the following:

- Foreign Language: (preferably two years)
- Computer Science
- Visual and performing arts
- Vocational education units

Math Standards:

ACT - 18 minimum on math portion,
SAT - 440 minimum on math portion, or
Advanced Placement Calculus Exam - 3 minimum

Note: minimum standards will increase in 2010. They will become 22 for the ACT, and 520 for the SAT

Detailed info available at:
<http://mus.edu/asa/hscp/>

You might be tempted to take on a less challenging schedule your senior year. Don't. Not only does this look bad to an admissions officer, it will leave you ill-prepared for the rigorous work you'll face in college.

Every college has its own admissions standards, so if you have a specific school in mind, be sure to find out about those standards well in advance, and use them to plan your high school coursework. However, chances are that you don't yet know which school you want to attend.

In that case, the best way to prepare is to take the most challenging schedule you can handle. Take advanced placement or honors classes whenever possible. Remember, a B in an honors course can look better to an admissions officer than an A in a regular course, because it shows you are willing to take on a challenge.

Most admissions offices look for a solid background in English, math, lab sciences, social studies, and foreign languages. If you plan to pursue a specific subject area, such as business or music, take these courses as well. If you have talent in arts or athletics, don't neglect them. A well-balanced application shows involvement in extra-curricular activities as well as strong academic work.

RECOMMENDED HIGH SCHOOL COURSES FOR:

On-the-job training:

- Business math
- English (writing and reading)
- Computer science

Technical and two-year schools:

- Math - algebra, geometry, business math
- English - writing, speech, literature
- Social Studies - government, history
- Science - biology, chemistry, physics
- Computer science

4-year difficult admissions (Rigorous Core):

- English - 4 years
- Math - 4 years (including calculus)
- Foreign Language - 2 years min. (same language)
- Science - 3 years laboratory science
- Social Studies - 3 years
- History - 2 years

WHAT TYPE OF TRAINING PROGRAM IS RIGHT FOR YOU?

Too often, high school graduates enroll in a four-year college simply because they don't know what else to do. They end up switching majors, dropping out, or transferring to a different school, all of which means wasted time and money. It is important to have clear career goals so you can choose the right training program the first time around. Many high-paying occupations in Montana require only a two-year degree, which gets students into the workforce in half the time, and often with half the debt. So which type of program is right for you? This guide will give you a basic idea of the types of education and training programs available to you.

Colleges of Technology

Technical colleges tend to be career-oriented, offering mainly two-year programs that qualify students for employment in various technical fields. They offer associate's degrees, certifications, and specialized endorsements. Montana's colleges of technology are affiliated with the university system, and credits are transferrable should a student decide to transfer to a four-year school.

Montana has four colleges of technology. Those affiliated with Montana State University are located in Billings and Great Falls, and those affiliated with the University of Montana are located in Butte and Helena. Each offers a variety of programs and degrees. These include:

- Accounting
- Associate of Arts
- Automobile Collision Repair & Refinishing
- Aviation Science and Technology
- Business Management
- Computer Technology - Application Development
- Computer Technology - Networking
- Construction Technology
- Diesel Technology
- Drafting & Design Technology
- Electronics
- Fire Science
- Health Sciences - Medical Assistant
- Health Sciences - Paramedics
- Health Sciences - Practical Nursing
- Heating, Ventilation, Air Conditioning, and Refrigeration
- Interior Design
- Radiologic Technology
- Surgical Technology
- Welding & Metal Fabrication
- ...and more

Community Colleges

Much like technical colleges, community colleges offer two-year degree programs, along with specialized certification programs and endorsements. Community colleges tend to focus on the training needs of a specific community.

In Montana, many community colleges are affiliated with Native American tribes, and serve not only to educate and train the local workforce, but to preserve the traditions and culture of Montana's native peoples.

Specialized Trade Schools

Trade schools provide short-term programs (less than two years) that prepare students for specific careers, such as law enforcement, cosmetology, taxidermy, and radiology (see list p. 12).

Liberal Arts Colleges

Liberal Arts schools tend to emphasize broad knowledge in arts, sciences, and humanities rather than focussing on specialized career training. Programs and degrees offered vary widely by institution.

Public Universities

Universities offer Bachelor's (four-year) degrees in both the arts and sciences. Many also offer Master's, Doctoral, and Professional degrees. Majors and degrees vary widely by institution, so make sure to research a school thoroughly before applying.

MONTANA COLLEGES & UNIVERSITIES

Blackfeet Community College	P.O. Box 819	Browning, MT 59417-0819	406-338-5441
Carroll College	1601 N. Benton Ave.	Helena, MT 59625-0002	800-992-3648
Chief Dull Knife College	P.O. Box 98	Lame Deer, MT 59043-0098	406-477-6215
Dawson Community College	P.O. Box 421	Glendive, MT 59330-0421	800-821-8320
Flathead Valley Community College (FVCC)	777 Grandview Dr.	Kalispell, MT 59901-2622	406-756-3822
FVCC Libby Campus	225 Commerce Way	Libby, MT 59923	406-293-2721
Fort Belknap College	P.O. Box 159	Harlem, MT 59526-0159	406-353-2607
Fort Peck Community College	P.O. Box 398	Poplar, MT 59255-0398	406-768-6300
Little Big Horn College	1 Forst Lane	Crow Agency, MT 59022-0370	406-638-3104
Miles Community College	2715 Dickinson	Miles City, MT 59301-4774	800-541-9281
Montana Bible College	3625 S. 19th	Bozeman, MT 59718	888-462-2463
Montana State University - Billings	1500 University Dr.	Billings, MT 59101-0298	800-565-6782
MSU - Billings College of Technology	3803 Central Ave.	Billings, MT 59102	406-247-3000
Montana State University - Bozeman	P.O. Box 172190	Bozeman, MT 59717-2190	800-MSU-CATS
MSU - Great Falls College of Technology	2100 16th Ave. S.	Great Falls, MT 59405	800-446-2698
Montana State University Northern	P.O. Box 7751	Havre, MT 59501-7751	800-662-6132
Mountain States Baptist College	216 9th St. N.	Great Falls, MT 59401	406-761-0308
Montana Tech (U of M)	1300 W. Park St.	Butte, MT 59701	800-445-TECH
Rocky Mountain College	1511 Poly Dr.	Billings, MT 59102-1796	800-877-6259
Salish-Kootenai College	P.O. Box 70	Pablo, MT 59855-0117	406-275-4800
Stone Child College	RR1 Box 1082	Box Elder, MT 59521	406-395-4313
University of Great Falls	1301 20th St. S.	Great Falls, MT 59405	800-856-9544
U of M - Butte College of Technology	25 Basin Creek Rd.	Butte, MT 59701	406-496-3707
U of M - Helena College of Technology	1115 Roberts St.	Helena, MT 59601	800-241-4882
University of Montana - Missoula	32 Campus Dr.	Missoula, MT 59812-0002	800-462-8636
U of M - Missoula College of Technology	909 S. Ave. W.	Missoula, MT 59801	800-542-6882
University of Montana - Western	710 S. Atlantic	Dillon, MT 59725-3598	800-UMW-MONT
Yellowstone Baptist College	1515 S. Shiloh Rd.	Billings, MT 59106	800-487-9950

SPECIALIZED TRADE SCHOOLS

Academy of Cosmetology	133 W. Mendenhall	Bozeman, MT 59715	406-586-2520
Academy of Nail & Skin, LLP	928 Broadwater Ave. Ste. C	Billings, MT 59101	406-252-3232
Anaconda Job Corps Center	1407 Foster Creek Rd.	Anaconda, MT 59711	406-563-8700
Big Sky Somatic Institute	1802 11th Ave.	Helena, MT 59601	406-442-8998
Blanco Blanco Cosmetology School	901 24th St. W.	Billings, MT 59102	406-652-2700
Butte Academy of Beauty Culture, Inc.	303 West Park	Butte, MT 59701	406-723-8565
Connole Morton Real Estate School	415 N. Higgins	Missoula, MT 59802	406-543-3269
Crevier's School of Cosmetology	134 First St. W.	Kalispell, MT 59901	406-257-2525
Dahl's College of Beauty	716 Central Ave.	Great Falls, MT 59401	406-454-3453
DAVRON Telco Training, LLC	6635 Sleeping Giant View Dr.	Helena, MT 59602	406-227-1194
H&R Block Income Tax Schools	(7 locations in Montana - visit www.hrblock.com to find a school near you)		
Kickinghorse Job Corps	2000 Mollman Pass Trail	Ronan, MT 59864	406-644-2217
Missoula Valley School of Taxidermy	P.O. Box 1169	Thompson Falls, MT 59873	406-827-3170
Modern Beauty School Inc.	2700 Paxson, Suite G	Missoula, MT 59801	406-721-1800
Jerry Malson's MT Guide Training Center	22 Swamp Creek Rd.	Trout Creek, MT 59874	406-847-5582
Montana Law Enforcement Academy	2260 Sierra Road E.	Helena, MT 59602	406-444-9950
Montana School of Taxidermy & Tanning	3280 Green Meadow Dr.	Helena, MT 59602	406-443-0022
Sage Technical Services	3044 Hesper Rd.	Billings, MT 59102	406-652-3030
SkillTrain	1121 E. Broadway	Missoula, MT 59802	406-541-7545
Trapper Creek Job Corps Center	5139 West Fork Rd.	Darby, MT 59829	406-821-3286

APPRENTICESHIP PROGRAMS

<i>Union Apprenticeship Programs</i>	<i>Address</i>	<i>Phone #</i>
Billings Area Roofing #229 JATC	P.O. Box 31866	Billings, MT 59107 406-668-7532
Billings Carpenters #1172 JATC	530 S. 27th St.	Billings, MT 59101 406-259-6911
Billings Painting Trades JATC #167	530 S. 27th St.	Billings, MT 59101 406-259-6911
Billings Piping Industry JATC #30	P.O. Box 30616	Billings, MT 59107-0616 406-252-9371
Blackfeet Indian Contractors Assoc.	P.O. Box 2565	Browning, MT 59417 406-338-5134
Bricklayers & Allied Craftsmen Local #3	P.O. Box 63	Ramsey, MT 59748 406-544-3027
Butte Automotive Trades JATC	156 W. Granite St.	Butte, MT 59701
Butte Carpentry Trades JATC	P.O. Box 3412	Butte, MT 59701 406-782-8542
Carpenters Local #28	208 E. Main	Missoula, MT 59802 406-549-8067
Carpenters Local #153	110 N. Warren	Helena, MT 59601 406-442-0210
Carpenters Local #557	P.O. Box 11	Bozeman, MT 59771 406-587-7690
Eagle Electric/Jeff Hoffer	P.O. Box 5324	Helena, MT 59604 406-442-8685
Great Falls Auto & Machinists JATC	4 Eaton Ave.	Great Falls, MT 59403 406-453-7555
Great Falls Carpentry Trades JATC	1112 Seventh S. RM 23	Great Falls, MT 59405 406-453-1301
Helena Automotive Trades JATC	P.O. Box 6549	Helena, MT 59604 406-442-5810
International Union of Elevator Constructors	2112 Thorndyke Ave. W.	Seattle, WA 98199 402-734-0209
Kalispell/Missoula Carpenters JATC	208 E Main St.	Missoula, MT 59802 406-549-8067
Laborers AGC (heavy, highway construction)	3100 Horseshoe Bend	Helena, MT 59601 406-442-9964
Missoula Electric Co-op JATC	1700 W. Broadway	Missoula, MT 59802 406-541-4433
Missoula Plumbing Trades JATC	1026 S. 5th St. W.	Missoula, MT 59801 406-549-3479
Montana Carpenters JATC	780 Carter Dr.	Helena, MT 59601 406-453-1301
Montana-Dakota Utilities JATC	400 4th St.	Bismarck, ND 58501 701-222-7671
Montana Dept. of Labor & Industry	P.O. Box 1728	Helena, MT 59624 406-444-3998
Montana Electrical JATC	P.O. Box 4177	Helena, MT 59604 406-449-7173
Montana Ironworkers JATC	456 Arthur Ave.	Pocatello, ID 83201 208-705-1703
Montana State Sheet Metal Workers JATC	P.O. Box 4048	Butte, MT 59702 406-533-0112
Mountain States Line Constructors JATC	7001 S. 900 E. Ste. 240	Midvale, UT 84047 801-942-7472
Northwestern Energy	40 E. Broadway	Butte, MT 59701 406-497-2587
Operating Engineers JATC	Canyon Ferry Rd.	East Helena, MT 59604 406-227-5600
Pacific Northwest Ironworkers JATC	16610 E. Euclid	Spokane, WA 99216 509-922-3577
Plumbers and Pipefitters #41 JATC	P.O. Box 3172	Butte, MT 59702 406-494-3051
PPL Montana LLC - Colstrip JATC	P.O. Box 38	Colstrip, MT 59232 406-748-5055
PPL Montana LLC - Corette	P.O. Box 30495	Billings, MT 59107-0495 406-869-5100
PPL Montana LLC - Hydro Division	45 Basin Creek Rd.	Butte, MT 59701 406-533-3415
Qwest JATC	P.O. Box 407	West Yellowstone, MT 59758 406-646-7554
Sheet Metal Workers Local #103	5250 N. Montana Ave.	Helena, MT 59602 406-453-3364
Smurfit Stone Container JATC	P.O. Box 4707	Missoula, MT 59806-4707 406-626-4451
U.S. Department of Labor	301 S. Park, Drawer 10055	Helena, MT 59626 406-449-5261
West Central Montana Painters Industry JATC	P.O. Box 666	Great Falls, MT 59403 406-452-0889
Western States Boilermakers #11 JATC	P.O. Box 1300	Benson, AZ 85602-1300

FINANCIAL AID

Higher Education is expensive. While it may pay off in the long run, you'll have to pay up front. Some people have college funds set aside by their parents, but most of us will need some help paying for school. Luckily for the rest of us, there are many types of financial aid available.

WHAT IS FINANCIAL AID?

Simply stated, financial aid is money to help you pay for college. It comes from federal and state governments, banks, the schools themselves, and private donors. Some types of financial aid must be paid back, others do not. Like applying for admission to a school, there are strict deadlines in applying for financial aid, so make sure to find out about these deadlines well in advance.

WHO CAN GET FINANCIAL AID?

The amount and kind of financial aid you get is based on your financial need, your academic record, and on the kinds of aid available at the school you attend. Each source of financial aid has its unique requirements, so you'll have to do some research to find out what types you are eligible for. Don't assume you won't be eligible. Not all financial aid sources are based on financial need, and most consider a combination of factors.

WHAT ARE THE DIFFERENT KINDS OF FINANCIAL AID?

Grants

Grants are money given to you, based on financial need, that you do not repay.

The Pell Grant is a federal award to help undergraduate students pay for education beyond high school.

The Supplemental Educational Opportunity Grant (SEOG) is for undergraduate students with exceptional financial need.

Montana Higher Education Grant (MHEG) awards are based on financial need.

MTAP-Baker Grants are based on financial need and student earnings. Students must have \$2,600 in earnings to be eligible.

Student Loans

Loans are money that you borrow and repay when you complete or leave school.

The Perkins Loan is a low-interest loan for undergraduate and graduate students with exceptional financial need.

The Stafford Loan is a low-interest loan for undergraduate and graduate students attending school at least half-time.

Parent Loans for Undergraduate Students

(PLUS) loans are made to parents of dependent undergraduate students enrolled at least half-time in an eligible school.

Other loans available

Institutional loans, deferred fee installment programs and short-term loan programs, Bureau of Indian Affairs and tribal loans, health profession loans, The Health Education Assistance Loan, The Health Professions Student Loan, and the Nursing Student Loan Program.

Scholarships

Scholarships are awarded by a variety of organizations and individuals, and do not need to be repaid. Scholarships may be awarded based on a number of different criteria, including academic performance, financial need, athletic or artistic ability, ethnicity, and field of study.

Work-Study Programs

Most colleges offer work-study programs, which provide part-time (20 hours or less per week) jobs for students with exceptional financial need. Jobs are usually on campus and are sometimes related to career goals or fields of study.

Military-Related Financial Aid

The U.S. Military offers four main Tuition Support Programs: Tuition Assistance, the Montgomery G.I. Bill, College Fund Programs, and Loan Repayment Programs. R.O.T.C. scholarships are also available. Go to www.todaysmilitary.com to find out more.

- Soon after January 1st (if you're entering school in the fall) submit your Free Application for Federal Student Aid (FAFSA) by mail or on-line at www.fafsa.ed.gov.
- Each January, if you are planning to be in school next year, apply for financial aid again. Remember, you must reapply each year.
- Register with the Selective Service. It is required by law, and failure to register may prevent you from receiving federal financial aid.
- Drug charges may make you ineligible for federal financial aid.
- Find out about financial aid deadlines well in advance. Failure to meet a deadline may prevent you from entering school on time.
- If you are under 23, you will need to provide information about your parents' finances on most financial aid applications. Sit down with your parents and compile this information so you can use it on applications.
- Keep copies of all your admissions and financial aid documents
- Contact the financial aid offices of prospective schools and request information on grants and scholarships available through the school.
- If you take out multiple student loans, you may find it easier to pay them off if you consolidate them into one monthly payment. For more information, visit www.loanconsolidation.ed.gov, or the Student Assistance Foundation's website at www.safmt.org.

TAX CREDITS

Tax benefits can also help to lower the cost of your continuing education. Income restrictions may apply.

Hope Tax Credit

Provides a maximum tax credit of \$1,500 per eligible student per year to help cover the first two years of qualified expenses.

Lifetime Learning Tax Credit

Provides a maximum benefit of \$2,000 per family for all undergraduates and graduate study for qualified expenses.

Student Loan Interest Deduction

Allows you to deduct up to \$2,500 in student loan interest on your taxes. Includes loans used for higher education expenses at eligible institutions, including graduate schools.

STUDENT ASSISTANCE FOUNDATION (SAF)

The Student Assistance Foundation (SAF) provides students and their families with information and resources to help them finance their college (and other post-secondary) education. The SAF website, located at www.smartaboutcollege.org, is quite possibly the most comprehensive source of financial aid information for Montana. Highlights of the site include:

- Student Loan Consolidation resource pages
- Free E-Book: "The Basics of Funding Your Education"
- Grant Information
- Step-by step instructions on completing financial aid applications
- Links to scholarship searches
- Links to Montana Schools' financial aid
- Financial Aid Calendar to help you meet deadlines

IN-DEMAND JOB SKILLS

The days when a career was a lifetime commitment are long over. The U.S. Department of Labor estimates that Americans will have an average of 3.5 different careers in their lives, and work for ten employers, keeping each job for 3.5 years. This refers not to specific jobs, but entire career paths. When entering an entirely new field, in which one has little to no experience, the skills acquired through unrelated jobs and life experiences can be a major selling point on a resume. But which skills are Montana employers looking for in applicants?

The Basics:

Unsurprisingly, basic skills top the list, since they are required for most jobs. **Reading Comprehension, Active Listening, Speaking, Critical Thinking, and Writing** occupy the top 5 spots. A person will acquire some skill in the basics from high school and work experience. Postsecondary education will give an applicant a competitive edge, regardless of major. College experience also shows a willingness to learn, fulfilling skill #6: **Active Learning**.

#1 Reading Comprehension

Understanding written sentences and paragraphs in work related documents.

#2 Active Listening

Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

#3 Speaking

Talking to others to convey information effectively.

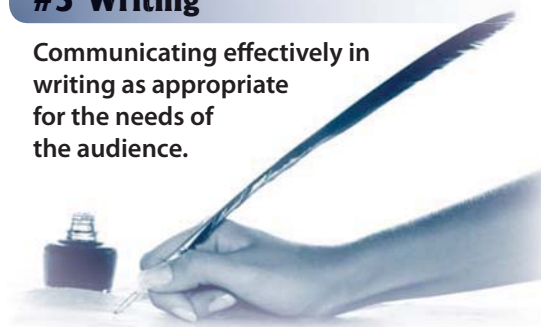


#4 Critical Thinking

Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

#5 Writing

Communicating effectively in writing as appropriate for the needs of the audience.



#6 Active Learning

Understanding the implications of new information for both current and future problem-solving and decision-making.

#7 Judgment & Decision Making

Considering the relative costs and benefits of potential actions to choose the most appropriate one.

#8 Mathematics

Using mathematics to solve problems.

#9 Science

Using scientific rules and methods to solve problems.

Mathematics and **Science** also rank high on the list. Many high-wage occupations require a degree in math or science. For instance, Accountants and Auditors, Financial Examiners, Chemists, Microbiologists, and Wildlife Biologists all require varying levels of postsecondary education in math and science.

#10 Complex Problem Solving

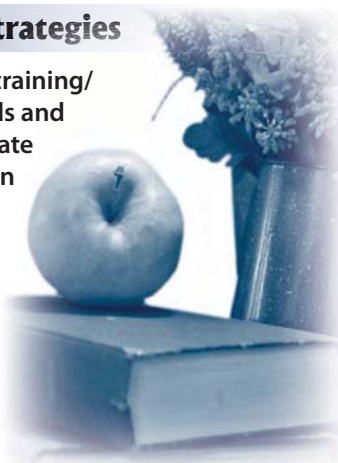
Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

#11 Learning Strategies

Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.

#12 Instructing

Teaching others how to do something.



Learning Strategies and **Instructing** skills can also be acquired in college, especially in Masters and Doctoral programs which give the opportunity for graduate students to teach lower level courses. Even if one is pursuing a career other than teaching, experience in a teaching assistantship proves valuable on a resume, since many professional positions require employees to train other employees, or to instruct the public. Some Dietitians and Nutritionists, for example, travel to schools, workplaces, and other institutions, giving presentations on how to eat smart and stay healthy. Most employers encourage lifetime learning, which may include personal research. Lawyers need to be highly skilled in **Learning Strategies**, since much of their work requires research, and they must keep current with the latest laws and legal precedents.

Monitoring is a skill useful for people in management and analysis occupations such as Management Analysts, Medical and Health Services Managers, Natural Science Managers, Network Systems and Data Communications Analysts, and Market Research Analysts. However, the ability to assess the performance of oneself and others has applications in a wide variety of jobs. Educational, Vocational, and School Counselors, Postsecondary English and Literature Teachers, and Compliance Officers all benefit from this skill.

Operations Analysis is the only technical skill to make the top fifteen. High importance is placed on this skill in occupations ranging from Computer Software Engineers and Network Systems Analysts to Natural Science Managers and Foresters. Operations Analysis made the list because it is required not only in high technology occupations, but in many other management and science fields. Occupations in technology tend to require high levels of other technical skills that did not make the list, such as **Programming** and **Technology Design**.

#13 Monitoring

Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

#14 Operations Analysis

Analyzing needs and product requirements to create a design.

#15 Coordination

Adjusting actions in relation to others' actions.

Who knows what new career paths the future will bring? The best source of job security in the new economy is the individual development of skills. Identifying the skills valued most by employers will help individuals to invest their training time wisely, and allow colleges and vo-techs to develop curriculums which will best benefit students seeking employment and businesses that need a labor force trained in the most applicable skills.

THE JOB SEARCH

When most people think about looking for a job, they think of newspaper want ads. The truth is that 80 to 90% of all job openings are never advertised.¹

You might ask, "Then how do people ever find jobs?" The answer is **Networking**. In today's job market, it really is all about who you know. If this doesn't seem fair, remember that there is nothing stopping you from getting out there and meeting people in your field. In fact, that is your best bet when it comes to job hunting.

Making Connections

If you feel you're not especially "well-connected," consider that everyone you know, from family to friends to teachers, are "connections." Start your job search by telling everyone you know that you are looking for a job. They have connections of their own, and you never know who might have heard about a job opening.

But don't stop with people you already know. Find out which companies hire workers in your chosen profession and introduce yourself to the human resources director, or whoever makes hiring decisions. Let them know you are interested in their company, tell them what type of job you are looking for, and ask whether any positions are available, or will be available soon. Even if they don't have any openings, offer them a copy of your resume, and ask for a business card. You've just made a connection! The next time a position opens up, they just might remember you, especially if you check back with them from time to time and let them know you are still interested.

Also consider joining a social or professional organization. Chances are, someone in your local rotary organization, church, or soccer club works for a company that is hiring. Remember, the more people you know, the more likely that someone will give you the lead that lands you a job.

As important as it is to make professional connections, don't rule out job postings altogether. There are many different ways to look for jobs, and the more methods you try, the more likely you are to succeed.

Internet Job Search Engines

The Internet offers an ideal way to bring employers and employees together because information can be shared so quickly and easily. There are thousands of web sites on the Internet where you can post your resume or look for openings. Two of your best sources are Montana JobLINC at www.mtjoblinc.com or Job Central at www.jobcentral.com/states.asp.

Job Service Workforce Centers

Some of the most valuable resources for Montana job seekers are the Job Service Workforce Centers located throughout the state. Not only can they help you find job openings, Job Service staff can help you identify your skills, write resumes and cover letters, prepare for interviews, provide clerical and aptitude testing, and offer career counseling for those not sure of their future employment plans. They also have computers and software to aid your search, as well as printers, telephones, fax machines, and a library of books and career videos.

If you utilize your local Job Service Workforce Center, remember to BE PREPARED. You can expect to fill out a job application or register on the web, so you'll need to bring the following information:

- **Your current address and phone number**
- **Your Social Security Number**
- **Names, addresses, and phone numbers of previous employers**
- **Dates of previous employment**
- **Names, addresses and phone numbers of three personal references**
- **Other relevant information, such as your driver's license number, union cards, copies of transcripts, or military discharge papers**

¹From the North Dakota Career Resource Network's "Career Outlook 2005-2006" www.NDCRN.com.

JOB SERVICE WORKFORCE CENTER LOCATIONS

You will also be interviewed by a Job Service consultant to determine your qualifications. There's a chance you'll be sent to a job interview directly from the Job Service Workforce Center, so dress appropriately.

Montana's Job Service Workforce Centers can be found in the following locations:

Anaconda

307 East Park
Anaconda, MT 59711
Phone: 406-563-3444
Fax: 406-563-7827
Job Hot-Line: 406-563-7826
E-mail: anacondajsc@mt.gov

Billings

2121-B Rosebud Drive
Billings, MT 59102
Phone: 406-652-3080
Fax: 406-652-0444
E-mail: billingsjsc@mt.gov

Bozeman

121 North Willson
Bozeman, MT 59715
Phone: 406-582-9200
Fax: 406-582-9210
E-mail: bozemanjsc@mt.gov

Butte

2201 White Blvd.
Butte, MT 59702
Phone: 406-494-0300
Fax: 406-494-5481
Job Hot-line: 406-494-0338
E-mail: buttejsc@mt.gov

Cut Bank

501 East Main
Cut Bank, MT 59427
Phone: 406-873-2191
Fax: 406-873-5393
Job Hot-Line: 406-873-4407
E-mail: cutbankjsc@mt.gov

Dillon

730 North Montana
CL #4
Dillon, MT 59725
Phone: 406-683-4259
Fax: 406-683-2903
Job Hot-Line: 406-683-4737
E-mail: dillonjsc@mt.gov

Glasgow

74 4th Street North
Glasgow, MT 59230
Phone: 406-228-9369
Fax: 406-228-8793
Job Hot-Line: 406-228-9523
E-mail: glasgowjsc@mt.gov

Glendive

211 South Kendrick
Glendive, MT 59330
Phone: 406-377-3314
Fax: 406-377-5831
Job Hot-Line: 406-377-5823
E-mail: glendivejsc@mt.gov

Great Falls

1018 7th Street S.
Great Falls, MT 59405
Phone: 406-791-5800
Fax: 406-791-5889
Job Hot-Line: 406-453-5556
TDD: 406-791-5882
E-mail: greatfallsjsc@mt.gov

Hamilton

333 W. Main Street
Hamilton, MT 59840
Phone: 406-363-1822
Fax: 406-363-1823
Job Hot-Line: 406-363-2726
E-mail: hamiltonjsc@mt.gov

Havre

160 First Avenue
Havre, MT 59501
Phone: 406-265-5847
Fax: 406-265-1386
Job Hot-Line: 406-265-1587
E-mail: havrejsc@mt.gov

Helena

715 Front Street
Helena, MT 59601
Phone: 406-447-3200
Fax: 406-447-3224
Job Hot-Line: 406-447-3222
E-mail: helenajsc@mt.gov

Kalispell

427 First Avenue E.
Kalispell, MT 59901
Phone: 406-758-6200
Fax: 406-758-6290
Job Hot-Line: 406-758-6297
TDD: 406-758-6224
E-mail: kalispelljsc@mt.gov

Lewistown

300 First Avenue North
Lewistown, MT 59457
Phone: 406-538-8701
Fax: 406-538-7249
Job Hot-Line: 406-538-5263
E-mail: lewistownjsc@mt.gov

Libby

417 Mineral, Suite 4
Libby, MT 59923
Phone: 406-293-6282
Fax: 406-293-5134
Job Hot-Line: 406-293-6282
Press option 1
E-mail: libbyjsc@mt.gov

Livingston

220 E. Park
Livingston, MT 59047
Phone: 406-222-0520
Fax: 406-222-1593
Job Hot-Line: 406-222-0533
E-mail: livingstonjsc@mt.gov

Miles City

12 North 10th Street
Box 1786
Miles City, MT 59301
Phone: 406-232-8340
Fax: 406-232-6270
Job Hot-Line: 406-232-6350
E-mail: miles-cityjsc@mt.gov

Missoula

539 S. Third Street W
P.O. Box 5027
Missoula, MT 59806
Phone: 406-728-7060
Fax: 406-721-7094
E-mail: missoulajsc@mt.gov

Polson

417-B Main
P.O. Box 970
Polson, MT 59860
Phone: 406-883-7880
Fax: 406-883-4564
Job Hot-Line: 406-883-3311
E-mail: polsonjsc@mt.gov

Shelby

202 Main St.
Shelby, MT 59474
Phone: 406-434-5161
Fax: 406-434-2351
Job Hot-Line: 406-434-5045
E-mail: shelbyjsc@mt.gov

Sidney

211 North Central
Sidney, MT 59270
Phone: 406-433-1204
Fax: 406-433-7453
Job Hot-Line: 406-433-6665
E-mail: sidneyjsc@mt.gov

Thompson Falls

2504 Tradewinds Way
P.O. Box 669
Thompson Falls, MT 59873
Phone: 406-827-3472
Fax: 406-827-3327
Job Hot-Line: 406-827-4562
E-mail: ThompsonFallsJSC@mt.gov

Wolf Point

201 Main Street
Wolf Point, MT 59201
Phone: 406-653-1720
Fax: 406-653-1196
Job Hot-Line: 406-653-1194
E-mail: wolfpointjsc@mt.gov

For links to the individual Job Service Workforce Centers' websites, go to <http://wsd.dli.mt.gov/service/officelist.asp>

MARKETING YOURSELF

In most aspects of life, modesty is an important quality to possess. But it has no place in your job search. Chances are, your dream job will have many qualified applicants. If you want to convince the prospective employer that you are the best fit for the position, you must learn to market yourself. Don't downplay your accomplishments. Advertise them.

But what if your work history is less than spectacular. Perhaps you have no prior work experience, or you're been raising a family and haven't been employed in ten years? This is when marketing yourself becomes crucial. You can make up for your lack of work experience by focussing on your skills.

More and more employers consider the "soft skills" the most important ones to look for in a prospective employee. "Soft skills" are personal qualities, habits, and attitudes that are not necessarily acquired from work experience, but ones that make you a good employee. Some of the most important ones include reliability, flexibility, problem-solving, and communication skills.

One of the first things you should do to prepare for your job search is to identify your skills. Start by listing the following:

- Any previous employment
- Volunteer work
- Education
- Hobbies
- Day-to-day tasks
- Other experience involving skills

Now think about the tasks and duties involved in each of the items on your list. What skills did you learn and utilize for each activity? If you're having trouble recognizing your skills, the Montana Career Information System (MCIS) is a great resource. MCIS's Micro-SKILLS program¹ takes you through the entire process of evaluating your skills.

Once you know what skills you have, you can begin matching them to specific jobs. Once again, MCIS can help. It allows you to select a specific occupation and find out which skills are the most important in that job. Knowing what skills an employer is looking for, and being able to match them up with your experience allows you to customize your resume to suit each position for which you apply. The following scenarios will demonstrate how this is done.

Situation #1

You are a high school student applying for a job in a retail store. You have no prior work experience because you have been so actively involved in extra-curricular activities, such as student government, forensics, and volunteer work at the local animal shelter. You may think you have nothing to market, but think again (see box below).

For every check mark, you have another skill you can advertise in your cover letter and resume, as well as in the job interview. Marketing yourself in this way will give you the advantage over equally-experienced candidates who did not make the same effort.

Student Government

- Teamwork ✓
- Working with the public ✓
- Listening ✓
- Speaking ✓
- Information gathering
- Evaluating
- Synthesizing
- Planning
- Analyzing
- Negotiating ✓
- Leading
- Decision Making
- Managing Resources ✓

Forensics

- Speaking ✓
- Listening ✓
- Verifying information ✓
- Competitiveness ✓
- Independent work
- Information gathering
- Persuading
- Using knowledge ✓

Animal Shelter

- Dependability ✓
- Teamwork ✓
- Working with the public ✓
- Assisting/caring ✓

¹The Micro-SKILLS assessment can be accessed through MCIS at www.smartaboutcollege.org.

Situation #2

You spent many years raising a family and now you need to get back into the workforce. You haven't worked for an employer in ten years so giving work-related references to a prospective employer is hard to do. But remember, raising a family takes a multitude of skills that often are underappreciated. If you were to apply for a job as a bank teller, what skills would be transferable?

The figure below shows the top 35 skills for bank tellers. Notice how many match the skills that the individual in situation #2 demonstrates that she possesses (see box to the right).

If you take the time to do this type of self-exploration, not only will you uncover skills you didn't know you had, you will gain confidence in your ability to market yourself to an employer. Once you develop this skill you will use it over and over again throughout your working life.

Household Finances

- Record keeping ✓
- Attention to detail ✓
- Categorizing ✓
- Verifying information ✓
- Using computers ✓
- Calculating ✓
- Estimating ✓
- Budgeting ✓
- Math reasoning ✓
- Evaluating ✓
- Analyzing ✓
- Using knowledge ✓
- Planning
- Decision making
- Managing resources



Raising Children

- Dependability ✓
- Flexibility ✓
- Assisting/Caring
- Stamina ✓
- Rapid Response ✓
- Stress Tolerance ✓
- Listening ✓
- Advising
- Safety of others
- Directing/leading ✓
- Impact of responsibility

BANK TELLER TOP 35 SKILLS

Skills to Select			5 Very Satisfying Skills	20 Somewhat Satisfying Skills
06. Competitiveness	25. Creativity	49. Science Reasoning	Very	Somewhat
	26. Aesthetic Judgment			
	28. Hazards Tolerance		10. Working with the Public	01. Dependability
	29. Discomfort Tolerance		31. Following Procedures	02. Flexibility
11. Assisting/Caring		58. Synthesizing	33. Record Keeping	03. Persistence
12. Performing	36. Installing	60. Planning	34. Attention to Detail	04. Integrity
13. Instructing	37. Inspecting		42. Using Computers	05. Efficiency
	38. Repairing		10 Moderately Satisfying Skills	07. Social Perception
	39. Troubleshooting		Moderately	08. Independent Work
16. Motor Coordination	40. Controlling Machines	63. Safety of Others	14. Finger Dexterity	09. Team Work
17. Stamina	41. Operating Vehicles	64. Persuading	15. Manual Dexterity	27. Stress Tolerance
18. Strength		65. Negotiating	32. Categorizing	30. Repetition Tolerance
19. Rapid Response	43. Programming	67. Initiating	35. Verifying Information	48. Math Reasoning
20. Sound Discrimination	44. Technology Design	68. Coordinating	45. Calculating	50. Reading
21. Shape Discrimination	46. Estimating	69. Directing/Leading	52. Speaking	51. Writing
22. Color Vision	47. Budgeting	71. Managing Resources	53. Listening	54. Concentrating
23. Depth Perception			57. Advising	55. Information Gathering
24. Visualizing			62. Using Knowledge	56. Evaluating
			70. Decision Making	59. Analyzing
				61. Active Learning
				66. Confronting
				72. Impact of Responsibility

Screen shot from MCIS's Micro-SKILLS assessment

WHAT IS A COVER LETTER?

A cover letter is a letter of introduction and expression of interest that you send to a prospective employer, along with your resume. Cover letters are, in some ways, more important than resumes. While resumes summarize your qualifications, cover letters should sell you to the employer. You want the letter to convince the employer to take action on your resume and invite you for an interview.

- The cover letter should be addressed to a specific person. If you don't know the person's name and title, call and ask.
- The cover letter should briefly explain why you are interested in the company and what you can contribute to the team.
- A cover letter should not merely repeat the contents of the resume; it should highlight only the most important parts of your resume, and expand on them.
- The cover letter should be brief and to the point. It should not go over one page.
- Don't use jargon or be too technical.
- A cover letter has three sections: the introduction, middle, and ending. Normally each section is limited to one brief paragraph.
- The most important point to get across in the introduction (first paragraph) is your reason for writing. (See sample cover letter.)
- The middle (second paragraph) covers your main qualifications and accomplishments, and the reasons you are interested in the job.
- The ending (last paragraph) is a request for an interview. One option is to restate your interest in the job or that you will call next week to see about setting a time for an interview.
- It is always important to follow up your letter with a phone call to make sure they received your application packet and to see where they are in the hiring process.

March 29, 2007

Mr. Kenneth D. Wilson
Personnel Manager Kwick Litho Service, Inc.
1405 Bridge Street
Missoula, MT 59851

Dear Mr. Wilson:

Yesterday, I talked with Mark Andersen, your representative at the Missoula job fair. From our conversation, I became very interested in applying for the offset press operator position. Kwick Litho Service, Inc. is a leader in the full-service printing operation and I am eager to offer my skills in graphic design and production.

Currently, I am enrolled in graphic production classes at The University of Montana. My course work has included a full range of printing tasks including design, three-color offset and web press operation, and the use of pre-sensitized and direct-image plates. After completing these courses next month, I would like the opportunity to put my training into practice in a position such as the one that you have advertised.

Would it be possible to schedule a time when I might visit you? I would like to talk with you about my qualifications and my interest in working for Kwick Litho Service.

Sincerely yours,

(skip four spaces for your signature)

Daniel Heidelberg
304 Newbury Street
Missoula, MT 58512
Phone: 406.555.6789

Example letter created by intoCareers of the University of Oregon.

A resume is a summary of your work experience and skills that employers look at to decide whether or not to grant you an interview. It is not a list of all the jobs you have ever held, but a statement of qualifications tailored to suit the specific job for which you are applying.

TYPES OF RESUMES

Chronological Resume

The chronological resume lists work experience in reverse chronological order, listing your most recent experience first. This is the most popular type of resume, and employers are most familiar with this style. This style is good to use when you have a steady work history and your work experience is relevant to the job you are seeking.

Functional Resume

Functional resumes summarize and stress skills and abilities, rather than your work history. This type of resume is good if you have little work experience, do not have a steady work history, or want to change careers.

RESUME WRITING TIPS

- State a specific career objective.
- List your achievements. They are more impressive than vague qualities like "good work ethic."
- Keep it brief and to the point. One page of well-organized career highlights looks better than three pages of unnecessary details.
- Appearance is important. Make sure your resume looks good by not crowding the page with long paragraphs. Print it on high-quality resume paper, and proofread it several times to make sure it is perfect.
- Try not to use the expressions "responsible for" or "duties included." Instead use action verbs such as "assisted customers," and "repaired engines."
- Be honest and don't exaggerate your qualifications. Employers check your references, and you can lose your job if you are hired based on false statements.

SAMPLE CHRONOLOGICAL RESUME

GAIL BELL CAMP
212 Maple Lane
Helena, MT 59624
(406) 555-2377 (home)
(406) 555-2389 (message)

OBJECTIVE

Full-time work as an Assistant Accountant.

EXPERIENCE

Accounting Clerk, Helena College of Technology. February 1998 to present

- Maintained accounts payable and receivable, general ledger, and payroll for an operations budget of \$700,000.
- Implemented new ledger process and management procedures that saved employee and management time.

Machine Forming Operator. ABC Company, May 1990 to October 1998.

- Read complex blueprint specifications to assemble, install, and align dies in press.
- Inspected work for conformance to specifications and made necessary adjustments
- Received Zero Percent Error Award, 1996, 1997.

Machine Tool Cutting Operator. ABC Company, March 1986 to May 1990.

- Planned work process and sequence of operations using blueprints and layouts.
- Set up and operated automated cutting machines.
- Performed routine maintenance, decreasing breakdowns by 40%.

EDUCATION

Associate of Applied Science, Accounting Technology. July 1989 to December 1989. Montana State University, Billings, MT.

COMPUTER SKILLS

Lotus 1-2-3, Microsoft Excel.

REFERENCES

Available upon request.

SAMPLE FUNCTIONAL OR SKILLS RESUME

JAN MOSSIER
1140 Franklin Boulevard
Gardiner, Montana 59030
Home Phone: (406) 555-3773
Message Phone: (406) 555-2224

OBJECTIVE

To gain a technician assistant position in computer manufacturing.

SUMMARY OF SKILLS

- Able to solve and repair electronic equipment.
- Contribute to teams and create good work relationships.
- Energetic, hardworking, willing to learn.
- Basic understanding of IBM.

EXPERIENCE

ELECTRICAL SKILLS

- Built a TV scrambler from a circuit board in electronics class.
- Rewired lamps, repaired plumbing and appliances in home maintenance projects.
- Operated power tools (saws, drills, sanders) to cut and help frame buildings.

BUSINESS SKILLS

- Tracked and priced inventory with team to improve product availability to customers in a grocery store.
- Greeted customers and helped them to find hard-to-locate items. Cashiered and calculated cash flow at the end of each shift.

COMPUTER SKILLS

- Set up and entered personal budget on Excel, using IBM computer.

EMPLOYMENT HISTORY

Stock Clerk/Cashier. Sunny's Market 1999-Present
Construction Helper. The Builder's Group Summers 1996-1998

EDUCATION

Gardiner High School, Gardiner MT 1999
Related courses: drafting, basic electronics, management

Example resumes created by intoCareers of the University of Oregon.

TIPS FOR A SUCCESSFUL JOB INTERVIEW

➤ **RESEARCH THE COMPANY**

Find out as much as you can about the company

➤ **EXPLAIN YOUR EXAMPLES IN DETAIL**

Use the S.T.A.R. method to answer questions*

➤ **LOOK YOUR BEST**

Your clothes should be neat and appropriate
for the working environment
You should be well-groomed
No heavy perfume or cologne
Modest jewelry

➤ **BE PREPARED**

Bring a copy of your resume, references,
samples of work if appropriate

➤ **ARRIVE EARLY**

Make sure you know how to get to the
interview and arrive 10 minutes early

***The S.T.A.R. Method:**

Situation

Explain the situation

Task

Explain your task or role

Action

What action did you take?

Results

What resulted from your action?

Commonly asked interview questions:

- * *Tell me a little about yourself*
- * *What are your strengths?*
- * *What are your weaknesses?*
- * *Why do you want to work here?*
- * *Tell me about your most recent job.*
- * *Why did you leave your last job?*

➤ **BODY LANGUAGE**

Look the interviewer in the eye, but don't stare
Sit up straight and act alert
Don't chew gum or smoke
Smile when appropriate

➤ **BE ENTHUSIASTIC**

Show genuine interest in the job

➤ **USE DISCRETION**

Be honest in your answers but steer
away from troublesome areas

➤ **ASK QUESTIONS**

Ask questions that will help you decide
if the position is suitable for you

➤ **SUBJECTS TO AVOID:**

Don't mention financial or personal problems
Don't talk about what was wrong with
previous employers
Don't mention salary or benefits

➤ **REMEMBER TO THANK YOUR INTERVIEWER**

WHAT'S KEEPING YOU FROM YOUR CAREER?

Finding a job is not easy, and many of us face additional obstacles to being hired. Whether your obstacle is a disability, your age, or your situation in life, resources exist to help you find employment. The table below lists some of those resources.

Group	Description	Where can I go?
Adults Facing Barriers to Employment	Adults (22 years and older) who face barriers to employment and who are seeking assistance under the Workforce Investment Act.	Statewide Workforce Programs Ph: (406) 444-4571 Fax: (406) 444-3037 E-mail: wia@mt.gov www.wsd.dli.mt.gov
Blind Persons and Individuals with Physical or Mental Disabilities	Persons with any physical or mental disability that makes it difficult to find or keep a job.	Disability Services Division 111 Sanders Suite 307 PO Box 4210 Helena, MT 59604-4210 1-877-296-1197 (Toll free) www.dphhs.mt.gov/dsd
Dislocated Workers	Individuals who have been terminated or laid off generally due to plant closures or downsizing.	WIA Dislocated Worker Program Ph: (406) 444-4571 Fax: (406) 444-3037 E-mail: wia@mt.gov www.wsd.dli.mt.gov/wia/wiadislocatedworker.asp
Injured Workers	Workers who have been injured on the job	Employment Relations Division Department of Labor and Industry P.O. Box 8011 Helena, MT 59604-8011 Ph: (406) 444-7751 or 444-3089
Older Workers	Individuals 55 years or older who are economically disadvantaged.	Montana Senior & Long Term Care 1-800-332-2272 dphhs.mt.gov/sltc/
Veterans	Veterans who have served 180+ consecutive days on active duty, were released due to a related illness or injury, or have been in the National Guard or Reserves and were called to active duty during a war.	Contact your local Job Service Workforce Center (see page 19 for locations). www.wsd.dli.mt.gov
Displaced Homemakers	Individuals who have been dependent upon someone else for support and who through death, disability of a spouse, or divorce no longer have such support.	State Displaced Homemaker Program Ph: (406) 444-4571 Fax: (406) 444-3037 E-mail: wia@mt.gov www.wsd.dli.mt.gov
Youth	In school youth ages 14 to 21, and out-of-school youth ages 16 to 21.	WIA Youth Program Ph: (406) 444-4571 Fax: (406) 444-3037 E-mail: wia@mt.gov www.wsd.dli.mt.gov

OCCUPATIONS GUIDE

If there's one message to take away from this guide, it's that getting the kind of career you want takes planning. Whether you already know what you want to do, or have no idea what kinds of jobs are out there, our Occupations Guide will help you make informed career decisions.

Here's how it works:

The Occupations Guide lists Montana jobs with significant employment levels (200 jobs or more) and breaks them into six major "Career Clusters," or groupings of interrelated occupations. Some of these clusters are further broken down into occupational groups. Each section begins with an introduction that explains what kind of jobs and activities are included, and what the employment outlook is for that occupational group.

MONTANA'S SIX CAREER CLUSTERS:

Arts & Communications

Business, Management, & Information Systems


Environmental & Agricultural Systems

Health Sciences

Human Services & Resources

Industrial, Manufacturing, & Engineering Systems

The bulk of the occupations guide section consists of tables that provide information on specific occupations within each cluster. The occupations are ordered by the level of training they require. A sample table appears below:

Occupation	Interest Profile	Description	Wages	Outlook
Long-Term On-the-Job Training				
Compliance officers, except agriculture, construction, health & safety, and transportation	CR	Examine, evaluate, and investigate eligibility for or conformity with laws and regulations governing contract compliance of licenses and permits, and other compliance and enforcement inspection activities not classified elsewhere.	High-end: \$54,810 Median: \$41,100 Low-end: \$32,800	 Projected Average Annual Openings: 19

Use the Interest Profile to match your interest code (see pages 5-7) to specific occupations.

Find out about the duties and activities of jobs you never even knew existed. Even if you think you know what you want to do, you may find an occupation even better suited to your interests and abilities

Can you have the kind of lifestyle you want working in your chosen profession? Use the wages chart to find out.

Is this occupation growing? How fast? The symbols in the outlook column provide a visual guide to the growth rate for each occupation (see Outlook Key below). This column also notes the projected number of job openings each year.

OUTLOOK KEY



MUCH FASTER GROWTH THAN THE STATE AVERAGE



FASTER GROWTH THAN THE STATE AVERAGE



SAME GROWTH RATE AS THE STATE AVERAGE



SLOWER GROWTH THAN THE STATE AVERAGE



MUCH SLOWER GROWTH THAN THE STATE AVERAGE



DECLINING OCCUPATION



ARTS, A/V TECHNOLOGY, AND COMMUNICATIONS OCCUPATIONS

Do you like to perform in front of an audience?

***Are you interested in working
in the movies or television?***

Do you like to work with technology?

Is artistic expression important to you?

Are you visually oriented?

Does computer animation interest you?

Are you involved in school or community theater?

If you are interested in working in this cluster, you have two avenues. One is to be the performer or artist. The other is to work behind the scenes to make the performance or publication happen. As a reporter, actor, or fine artist, you would use your creative talents. To assure that a concert or magazine is successful, you would use computers and sound equipment. The occupations in this cluster allow you to use your creativity, talent, and technical skills.

National Employment Outlook

The job opportunities in broadcasting, journalism, and printing will be limited in the future. Most of the jobs will result when workers retire or go to other jobs. Increased use of technology means fewer workers will be needed. Many people are attracted to these occupations because of the glamour of the jobs. As a result, there are many applicants for broadcasting jobs. There have been changes in current laws regulating ownership of broadcast stations. Many stations are combined under one network and fewer workers are needed. You may find more job opportunities in films. More movies and programs are needed for the cable and satellite television channels. Most of the jobs will be for those working behind the scenes.

Pathways

Audio-Video Communications Technology

In the Audio-Video Communications Technology pathway, you work with the equipment used in producing sounds and images. You would make sure the equipment is available and working. You might work for hotels, convention centers, schools, movie theatres, and stadiums. Another option is to work for companies that rent or sell sound and video equipment.

Broadcast, Film, and Journalism

In the Broadcast, Film, and Journalism pathway, you would make sure that radio and television programs and movies reach the public. You could prepare the content and make broadcasts. During the show, you could record or transmit the program. In addition, you could be involved with the publication of newspapers and magazines. As a writer or photog-

ARTS, A/V TECHNOLOGY, AND COMMUNICATIONS OCCUPATIONS

rapher, you would produce the stories or articles. As an editor, you would plan the content and assign the work.

Performing Arts

As a worker in the Performing Arts pathway, you would be responsible for putting on plays and concerts. You could coordinate all the activities associated with putting on a concert or play. Or you might represent the actors or musicians to help them find jobs. Another option is to put on the live entertainment.

Printing Technology

The Printing Technology process has three stages. During the first stage, you would prepare material for printing presses. You would transform text and pictures into digital images or finished pages. Then you would make printing plates of the pages. During the next stage, you would prepare, operate, and maintain the printing presses in a pressroom. You would use





computers to perform the tasks electronically. During the third stage, you would join the printed sheets into a finished product.

Telecommunications


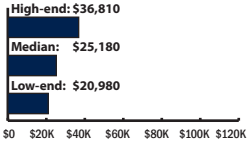

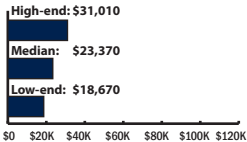

You would focus on the contact between computer and communications equipment in the Telecommunications pathway. Telecommunications equipment is computerized and can communicate a variety of information, including data, graphics, and video. You would set up, operate, and maintain this complicated equipment

Visual Arts

Visual artists create art to communicate ideas, thoughts, or feelings. You would use a variety of methods such as painting, sculpting, and illustrating. You would create art to satisfy your need for self-expression. Or you might use your artistic skills at corporations; retail stores; and advertising, design, and publishing firms.

Occupation	Interest Profile	Description	Wages	Outlook
Bachelor's Degree or Higher, plus Work Experience in a Related Field				
Music directors and composers	AES	Conduct, direct, plan, and lead instrumental or vocal performances by musical groups, such as orchestras, choirs, and glee clubs. Includes arrangers, composers, choral directors, and orchestrators.	High-end: \$27,900 Median: \$17,890 Low-end: \$14,740	 Projected Average Annual Openings: 8
Bachelor's Degree				
Graphic designers	AE	Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.	High-end: \$37,060 Median: \$29,410 Low-end: \$22,360	 Projected Average Annual Openings: 37
Public relations specialists	AIE	Engage in promoting or creating good will for individuals, groups, or organizations by writing or selecting favorable publicity material and releasing it through various communications media. May prepare and arrange displays, and make speeches.	High-end: \$54,810 Median: \$41,270 Low-end: \$34,380	 Projected Average Annual Openings: 24
Writers and authors	EAS	Originate and prepare written material, such as scripts, stories, advertisements, and other material.	High-end: \$50,160 Median: \$38,690 Low-end: \$24,950	 Projected Average Annual Openings: 29

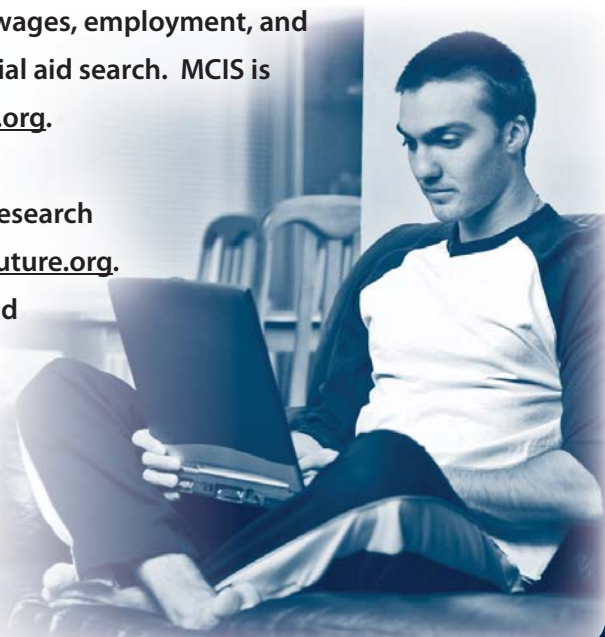
ARTS, A/V TECHNOLOGY, AND COMMUNICATIONS OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Long-Term On-The-Job Training				
Musicians and singers	AE	Play one or more musical instruments or entertain by singing songs in recital, in accompaniment, or as a member of an orchestra, band, or other musical group. Musical performers may entertain on-stage, radio, TV, film, video, or record in studios.	Information Not Available	 Projected Average Annual Openings: 13
Photographers	AI	Photograph persons, subjects, merchandise, or other commercial products. May develop negatives and produce finished prints.	 High-end: \$36,810 Median: \$25,180 Low-end: \$20,980	 Projected Average Annual Openings: 14
Moderate-Term On-The-Job Training				
Printing machine operators	REC	Set up or operate various types of printing machines, such as offset, letterset, intaglio, or gravure presses or screen printers to produce print on paper or other materials.	 High-end: \$31,010 Median: \$23,370 Low-end: \$18,670	 Projected Average Annual Openings: 16

CAN'T FIND THE OCCUPATION YOU'RE LOOKING FOR?

Can't find a certain occupation in this guide? Or perhaps you want to learn more about one you did find? Try the Montana Career Information System (MCIS), a comprehensive guide to Montana occupations and a career planning tool that provides detailed information on more than 497 occupations, 120 programs of study, and Montana wages, employment, and outlook data. It also offers a scholarship and financial aid search. MCIS is available free of charge at www.smartaboutcollege.org.

Also check out the "Career Resources" page at the Research and Analysis Bureau website at www.ourfactsyourfuture.org. Features like "Occupation Explorer" will help you find information on specific jobs, including current and projected employment levels, skills needed, tasks performed, training programs available, and more. Other resources let you download career publications, and even search America's Job Bank for job openings in your area.



BUSINESS, MANAGEMENT, & INFORMATION SYSTEMS CLUSTER



THIS CLUSTER INCLUDES:

Business, Management, & Administration Occupations

Finance Occupations

Hospitality & Tourism Occupations

Information Technology Occupations

Marketing, Sales, and Service Occupations



BUSINESS, MANAGEMENT, AND ADMINISTRATION OCCUPATIONS

Do you enjoy working with other people?

Are you good at working with numbers?

Do you like to plan and organize activities?

Have you started your own business?

Do you keep your checkbook balanced?

Are you an officer of an organization?

If you are interested in Business, Management, and Administration, there are many career options. You may provide the needed support to keep a business in operation. Or you might keep track of the expenses and income. You could manage the financial activities of a business. Another option is to be sure that a business has qualified employees who are trained to do their jobs. Or after years of education or experience, you might direct the operations of a business.

National Employment Outlook

There will be job opportunities in business, management, and administration in the future. Most of the opportunities will be in management. New management jobs will be added. Other openings will be the result of workers retiring or leaving their jobs. To qualify for these higher paying jobs, you will probably have to attend college and have several years of work experience. The increased use of technology in the storage and use of information will mean fewer job openings in some pathways in this cluster. Businesses will need fewer employees to do support work. Business owners will be able to do their own business analysis using the latest software programs.

BUSINESS, MANAGEMENT, & ADMINISTRATION OCCUPATIONS

Pathways

Management

Employees working in management do a variety of activities to keep a business in operation. The size of the company affects the work you might do as the manager. In a large company, you might supervise other managers. In a small company, you might directly supervise all the employees. Or you might direct the work in one area of a business such as marketing or finance.

As a manager, there could be many tasks to your job. You might build relationships with people outside the company or department and with employees. You might negotiate with or hire employees. Another part of the job might be to assure there are equipment, supplies, and money to operate the business.

Business Financial Management and Accounting

Employees in the Business Financial Management and Accounting pathway use general accounting systems. You would use the systems to prepare bills, taxes, and reports. Also, you would help make important business decisions.

Human Resources

In the Human Resources pathway, you would be responsible for finding and keeping employees. To do this, you would interview and hire the most qualified applicant. In addition, you would have to be familiar

with labor laws and wages and benefits. Your duties might include providing training and doing things to keep employees happy.

Business Analysis




If a business is experiencing problems, the owner might contact a business analyst for help. To find solutions to the problems, you would first carefully study the details of the business operations. Once a solution is developed, you would determine which is best for the business. In the final step, you would make a proposal to the business owner.

Marketing

People working in the Marketing pathway sell products and services. You would do market research for new products. Or you might sell the product to customers. Once the product is sold, you might make sure the product is delivered and the customer is satisfied.

Administration and Information Support

If you were to work in the Administration and Information Support pathway, you would manage the activities of an office. You would use computers to perform clerical activities. One of your goals would be to ensure that information is collected and shared with staff and clients.

Occupation	Interest Profile	Description	Wages	Outlook
Bachelor's Degree or Higher, plus Work Experience in a Related Field				
Administrative services managers	ECS	Plan, direct, or coordinate supportive services of an organization, such as recordkeeping, mail distribution, telephone operator/receptionist, and other office support services. May oversee facilities planning and maintenance and custodial operations.	High-end: \$65,180 Median: \$45,950 Low-end: \$36,000	 Projected Average Annual Openings: 21
Chief executives	ECS	Determine and formulate policies and provide the overall direction of companies or private and public sector organizations within the guidelines set up by a board of directors or similar governing body. Plan, direct, or coordinate operational activities.	High-end: \$106,760 Median: \$73,210 Low-end: \$34,080	 Projected Average Annual Openings: 48
General and operations managers	ECS	Plan, direct, or coordinate the operations of companies or public and private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources.	High-end: \$89,350 Median: \$62,390 Low-end: \$43,700	 Projected Average Annual Openings: 273

BUSINESS, MANAGEMENT, & ADMINISTRATION OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Bachelor's Degree or Higher, plus Work Experience in a Related Field				
Management analysts	CEI	Conduct organizational studies and evaluations, design systems and procedures, conduct work simplifications and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively.	<p>High-end: \$70,710 Median: \$57,460 Low-end: \$47,790</p>	 Projected Average Annual Openings: 19
Sales managers	EC	Direct the actual distribution or movement of a product or service to the customer. Coordinate sales distribution by establishing sales territories, quotas, and goals and establish training programs for sales representatives. Analyze sales statistics.	<p>High-end: \$75,060 Median: \$57,830 Low-end: \$43,200</p>	 Projected Average Annual Openings: 25
Bachelor's Degree				
Employment, recruitment, and placement specialists	ESC	Recruit and place workers.	<p>High-end: \$39,540 Median: \$34,790 Low-end: \$28,480</p>	 Projected Average Annual Openings: 18
Work Experience in a Related Occupation				
First-line supervisors/managers of office and administrative support workers	ECS	Supervise and coordinate the activities of clerical and administrative support workers.	<p>High-end: \$52,380 Median: \$38,290 Low-end: \$30,200</p>	 Projected Average Annual Openings: 111
First-line supervisors/managers of personal service workers	R	Supervise and coordinate activities of personal service workers, such as supervisors of flight attendants, hairdressers, or caddies.	<p>High-end: \$32,370 Median: \$25,760 Low-end: \$21,860</p>	 Projected Average Annual Openings: 18
Moderate-Term On-the-Job Training				
Executive secretaries and administrative assistants	CR	Provide high-level administrative support by conducting research, preparing statistical reports, handling information requests, and performing clerical functions such as preparing correspondence, receiving visitors, arranging conference calls, and scheduling meetings.	<p>High-end: \$35,380 Median: \$28,850 Low-end: \$23,990</p>	 Projected Average Annual Openings: 228
Secretaries, except legal, medical, and executive	CE	Perform routine clerical and administrative functions such as drafting correspondence, scheduling appointments, organizing and maintaining paper and electronic files, or providing information to callers.	<p>High-end: \$28,020 Median: \$22,650 Low-end: \$18,130</p>	 Projected Average Annual Openings: 300
Short-Term On-the-Job Training				
File clerks	CE	File correspondence, cards, invoices, receipts, and other records in alphabetical or numerical order or according to the filing system used. Locate and remove material from file when requested.	<p>High-end: \$23,230 Median: \$18,730 Low-end: \$15,120</p>	 Projected Average Annual Openings: 10
Human resources assistants, except payroll and timekeeping	CE	Compile and keep personnel records. Record data for each employee, such as address, weekly earnings, absences, amount of sales or production, supervisory reports on ability, and date of and reason for termination. Compile and type reports.	<p>High-end: \$37,230 Median: \$30,740 Low-end: \$25,400</p>	 Projected Average Annual Openings: 14

BUSINESS, MANAGEMENT, & ADMINISTRATION OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Short-Term On-the-Job Training (cont.)				
Mail clerks and mail machine operators, except postal service	CR	Prepare incoming and outgoing mail for distribution. Use hand or mail handling machines to time stamp, open, read, sort, and route incoming mail; and address, seal, stamp, fold, stuff, and affix postage to outgoing mail or packages.	<p>High-end: \$25,370 Median: \$20,520 Low-end: \$17,590</p>	 Projected Average Annual Openings: 11
Office clerks, general	CE	Perform duties too varied and diverse to be classified in any specific office clerical occupation, requiring limited knowledge of office management systems and procedures. Clerical duties may be assigned in accordance with the office procedures of individual organizations.	<p>High-end: \$26,620 Median: \$21,740 Low-end: \$17,180</p>	 Projected Average Annual Openings: 231
Production, planning, and expediting clerks	RC	Coordinate and expedite the flow of work and materials within or between departments of an establishment according to production schedule. Duties include reviewing and distributing production, work, and shipment schedules.	<p>High-end: \$49,040 Median: \$37,820 Low-end: \$27,080</p>	 Projected Average Annual Openings: 18
Receptionists and information clerks	CE	Answer inquiries and obtain information for general public, customers, visitors, and other interested parties. Provide information regarding activities conducted at establishment; location of departments, offices, and employees within organization.	<p>High-end: \$25,450 Median: \$21,770 Low-end: \$18,130</p>	 Projected Average Annual Openings: 124
Switchboard operators, including answering service	ECS	Operate telephone business systems equipment or switchboards to relay incoming, outgoing, and interoffice calls. May supply information to callers and record messages.	<p>High-end: \$26,270 Median: \$22,020 Low-end: \$18,510</p>	 Projected Average Annual Openings: 12

FINANCE OCCUPATIONS

Are you the treasurer of a club or organization?

Do you enjoy working with numbers?

Do you balance your checkbook?

Are you interested in the stock market?

Do you like to operate calculators?

Are you good at following detailed work plans?

In the occupations in the Finance cluster, you would keep track of money. You might provide financial services to a business or individual. Your work could include maintaining records or giving advice to business executives on how to operate their business. You could work in financial planning, banking, or insurance.

National Employment Outlook

Job opportunities in banking and insurance are expected to increase slowly. Most job openings will be the result of employees leaving their jobs or retiring. As the use of technology increases, fewer workers will be needed to do administrative and support tasks. More people will be completing their insurance and banking transactions on the computer.

In addition, smaller banks are merging into larger banks and need fewer employees. Insurance companies are using the Internet to sell their products and need fewer sales agents. Also, some insurance companies are reducing the number of employees because of budget problems.

FINANCE OCCUPATIONS

Employment in financial planning and investment is expected to grow. More people are investing in the stock market. Also, people are more interested in investing in markets in foreign countries. As people get older, they are looking for assistance in planning for their retirement.

Pathways

Financial and Investment Planning

In the Financial and Investment Planning pathway, you would help businesses and individuals make decisions about their investments.

Business Financial Management







In the Business Financial Management pathway, you would use general accounting systems to prepare financial reports. You would use information to help businesses make financial decisions.

Banking and Related Services

Employees working in the Banking and Related Services pathway work with individuals and businesses. You would provide loans, credit, and payment services.

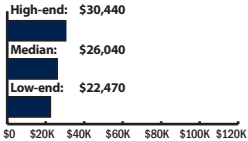

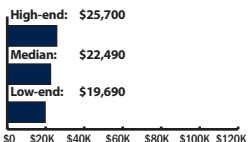

Insurance Services

Employees in the Insurance Services pathway provide protection to individuals and businesses. You would sell policies to guard against financial losses resulting from a variety of situations.

Occupation	Interest Profile	Description	Wages	Outlook
Bachelor's Degree or Higher, plus Work Experience in a Related Field				
Financial managers	EC	Plan, direct, and coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment.	High-end: \$86,690 Median: \$63,910 Low-end: \$43,290	 Projected Average Annual Openings: 25
Bachelor's Degree				
Accountants and auditors	CEI	Examine, analyze, and interpret accounting records for the purpose of giving advice or preparing statements. Install or advise on systems of recording costs or other financial and budgetary data.	High-end: \$62,810 Median: \$47,490 Low-end: \$37,300	 Projected Average Annual Openings: 154
Insurance sales agents	ES	Sell life, property, casualty, health, automotive, or other types of insurance. May refer clients to independent brokers, work as independent broker, or be employed by an insurance company.	High-end: \$56,120 Median: \$36,510 Low-end: \$28,570	 Projected Average Annual Openings: 85
Loan officers	ESC	Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers on financial status and methods of payments. Includes mortgage loan officers and agents, collection analysts, loan servicing officers, and loan underwriters.	High-end: \$65,410 Median: \$47,390 Low-end: \$33,460	 Projected Average Annual Openings: 37
Personal financial advisors	SEC	Advise clients on financial plans utilizing knowledge of tax and investment strategies, securities, insurance, pension plans, and real estate. Duties include assessing clients' assets, liabilities, cash flow, insurance coverage, and tax status.	High-end: \$89,930 Median: \$47,230 Low-end: \$35,870	 Projected Average Annual Openings: 33
Securities, commodities, and financial services sales agents	ESC	Buy and sell securities in investment and trading firms, or call upon businesses and individuals to sell financial services. Provide financial services, such as loan, tax, and securities counseling.	High-end: \$104,020 Median: \$37,580 Low-end: \$27,540	 Projected Average Annual Openings: 37

Occupation	Interest Profile	Description	Wages	Outlook
Work Experience in a Related Field				
Cost estimators	CE	Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.	<p>High-end: \$66,680 Median: \$47,800 Low-end: \$30,800</p>	 Projected Average Annual Openings: 40
Long-Term On-The-Job Training				
Claims adjusters, examiners, and investigators	EC	Review settled claims to determine that payments and settlements have been made in accordance with company practices and procedures, ensuring that proper methods have been followed. Report overpayments, underpayments, and other irregularities.	<p>High-end: \$52,660 Median: \$39,880 Low-end: \$29,470</p>	 Projected Average Annual Openings: 43
Moderate-Term On-The-Job Training				
Billing and posting clerks and machine operators	CRS	Compile, compute, and record billing, accounting, statistical, and other numerical data for billing purposes. Prepare billing invoices for services rendered or for delivery or shipment of goods.	<p>High-end: \$30,620 Median: \$24,690 Low-end: \$20,190</p>	 Projected Average Annual Openings: 48
Bookkeeping, accounting, and auditing clerks	CE	Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records.	<p>High-end: \$33,860 Median: \$27,470 Low-end: \$21,430</p>	 Projected Average Annual Openings: 515
Insurance claims and policy processing clerks	CR	Process new insurance policies, modifications to existing policies, and claims forms. Obtain information from policyholders to verify the accuracy and completeness of information on claims forms, applications and related documents, and company records.	<p>High-end: \$31,530 Median: \$27,950 Low-end: \$23,990</p>	 Projected Average Annual Openings: 25
Payroll and timekeeping clerks	C	Compile and post employee time and payroll data. May compute employees' time worked, production, and commission. May compute and post wages and deductions. May prepare paychecks.	<p>High-end: \$33,870 Median: \$28,690 Low-end: \$23,730</p>	 Projected Average Annual Openings: 25
Tax preparers	CE	Prepare tax returns for individuals or small businesses but do not have the background or responsibilities of an accredited or certified public accountant.	<p>High-end: \$35,130 Median: \$24,930 Low-end: \$16,990</p>	 Projected Average Annual Openings: 6
Title examiners, abstractors, and searchers	CE	Search real estate records, examine titles, or summarize pertinent legal or insurance details for a variety of purposes. May compile lists of mortgages, contracts, and other instruments pertaining to titles by searching public and private records for law firms.	<p>High-end: \$53,950 Median: \$39,860 Low-end: \$31,190</p>	 Projected Average Annual Openings: 8
Short-Term On-The-Job Training				
Bill and account collectors	ECS	Locate and notify customers of delinquent accounts by mail, telephone, or personal visit to solicit payment. Duties include receiving payment and posting amount to customer's account, and preparing statements to credit department if customer fails to respond.	<p>High-end: \$34,450 Median: \$27,940 Low-end: \$23,690</p>	 Projected Average Annual Openings: 51

FINANCE OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Short-Term On-The-Job Training (cont.)				
Loan interviewers and clerks	CES	Interview loan applicants to elicit information; investigate applicants' backgrounds and verify references; prepare loan request papers; and forward findings, reports, and documents to appraisal department. Review loan papers to ensure completeness.		 Projected Average Annual Openings: 23
Tellers	CE	Receive and pay out money. Keep records of money and negotiable instruments involved in a financial institution's various transactions.		 Projected Average Annual Openings: 161

HOSPITALITY AND TOURISM OCCUPATIONS

Can you talk easily with all kinds of people?

Do you participate in athletic activities?

Do you enjoy travel?

Have you worked in a restaurant?

Do you like to cook?

Do you like to plan family recreational activities?

In the Hospitality and Tourism cluster, you could work in a restaurant, hotel, sports arena, or travel agency. You might manage operations of a college cafeteria. Or you might guide high school students on a trip to Spain. Or you might rent equipment at a recreation center.

National Employment Outlook

There will be employment opportunities in hospitality and tourism in the future. Participation in amusement and recreation activities will increase for a number of reasons. First, incomes are increasing and more people are spending more money in this area. Many people have more leisure time. Also, more people are aware of the benefits of physical fitness. Businesses in hospitality and tourism are targeting the elderly, the fastest growing part of the population.

Pathways

Restaurant and Food and Beverage Services

In the Restaurant and Food and Beverage Services cluster, you would make sure that customers received the food and drinks they ordered. You might prepare the food at a large restaurant or a fast-food business. You could take orders and deliver the food. Or you could clean up after the customer leaves.

Lodging

Employees in the Lodging pathway take care of guests who stay at hotels or motels. You might work directly with guests. Or you might provide the services that make their stay at the hotel pleasant.










Travel and Tourism

Employees in the Travel and Tourism pathway make sure travelers have a good experience on trips. You might help a traveler plan and arrange a trip. You might write guidebooks. Or you might plan and present educational information about a specific location or area.











Recreation, Amusements, and Attractions

In the Recreation, Amusements, and Attractions pathway, you might find exciting and diverse work situations. The work is often demanding but usually not boring. You will need good customer service skills. Each of the business operations in this area is unique and has different requirements for employees.











HOSPITALITY AND TOURISM OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Bachelor's Degree				
Recreation workers	SR	Conduct recreation activities with groups in public, private, or volunteer agencies or recreation facilities. Organize and promote activities, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies.	High-end: \$26,020 Median: \$18,950 Low-end: \$16,210	 Projected Average Annual Openings: 46
Work Experience in a Related Field				
Chefs and head cooks	ESR	Direct the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts. May participate in cooking.	High-end: \$36,280 Median: \$29,580 Low-end: \$24,210	 Projected Average Annual Openings: 11
First-line supervisors/managers of food prep. and serving workers	SEC	Supervise workers engaged in preparing and serving food.	High-end: \$33,210 Median: \$26,650 Low-end: \$20,910	 Projected Average Annual Openings: 63
First-line supervisors/managers of housekeeping and janitorial workers	RC	Supervise work activities of cleaning personnel in hotels, hospitals, offices, and other establishments.	High-end: \$42,430 Median: \$32,900 Low-end: \$26,540	 Projected Average Annual Openings: 33
First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers	ESR	Plan, organize, direct, or coordinate activities of workers engaged in landscaping or groundskeeping activities, such as planting and maintaining ornamental trees, shrubs, flowers, and lawns, and applying fertilizers, pesticides, and other chemicals.	High-end: \$41,200 Median: \$30,730 Low-end: \$27,030	 Projected Average Annual Openings: 21
Food service managers	ECS	Plan, direct, or coordinate activities of an organization or department that serves food and beverages.	High-end: \$46,930 Median: \$31,040 Low-end: \$21,440	 Projected Average Annual Openings: 25
Gaming Supervisors	CSE	Supervise gaming operations and personnel in an assigned area. Circulate among tables and observe operations. Ensure that stations and games are covered for each shift. May explain and interpret operating rules of house to patrons. May plan and organize activities and create friendly atmosphere for guests in hotels/casinos. May adjust service complaints.	High-end: \$25,090 Median: \$22,790 Low-end: \$20,460	 Projected Average Annual Openings: 31
Lodging managers	ECS	Plan, direct, or coordinate activities of an organization or department that provides lodging and other accommodations.	High-end: \$40,880 Median: \$33,050 Low-end: \$24,670	 Projected Average Annual Openings: 38
Long-Term On-The-Job Training				
Cooks, restaurant	RC	Prepare, season, and cook soups, meats, vegetables, desserts, or other foodstuffs in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.	High-end: \$21,720 Median: \$18,120 Low-end: \$15,420	 Projected Average Annual Openings: 184

HOSPITALITY AND TOURISM OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Moderate-Term On-The-Job Training				
Coin, vending, and amusement machine servicers and repairers	RC	Install, service, adjust, or repair coin, vending, or amusement machines including video games, juke boxes, pinball machines, or slot machines.	High-end: \$35,630 Median: \$29,740 Low-end: \$25,390	 Projected Average Annual Openings: 7
Cooks, institution and cafeteria	ERC	Prepare and cook large quantities of food for institutions, such as schools, hospitals, or cafeterias.	High-end: \$22,050 Median: \$18,540 Low-end: \$16,610	 Projected Average Annual Openings: 113
Laundry and dry-cleaning workers	RIC	Operate or tend washing or dry-cleaning machines to wash or dry-clean industrial or household articles, such as cloth garments, suede, leather, furs, blankets, draperies, fine linens, rugs, and carpets.	High-end: \$24,250 Median: \$19,240 Low-end: \$16,190	 Projected Average Annual Openings: 32
Tour guides and escorts	RCE	Escort individuals or groups on sightseeing tours or through places of interest, such as industrial establishments, public buildings, and art galleries.	High-end: \$24,140 Median: \$16,240 Low-end: \$14,680	 Projected Average Annual Openings: 58
Short-Term On-The-Job Training				
Amusement and recreation attendants	ECS	Perform variety of attending duties at amusement or recreation facility. May schedule use of recreation facilities, maintain and provide equipment to participants of sporting events or recreational pursuits, or operate amusement concessions and rides.	High-end: \$21,010 Median: \$15,640 Low-end: \$14,160	 Projected Average Annual Openings: 67
Bartenders	RC	Mix and serve drinks to patrons, directly or through waitstaff.	High-end: \$18,960 Median: \$16,030 Low-end: \$14,330	 Projected Average Annual Openings: 316
Combined food prep. and serving workers, including fast food	R	Perform duties which combine both food preparation and food service.	High-end: \$17,920 Median: \$15,290 Low-end: \$14,030	 Projected Average Annual Openings: 376
Cooks, fast food	ER	Prepare and cook food in a fast food restaurant with a limited menu. Duties of the cooks are limited to preparation of a few basic items and normally involve operating large-volume single-purpose cooking equipment.	High-end: \$18,370 Median: \$15,080 Low-end: \$13,910	 Projected Average Annual Openings: 92
Cooks, short order	RCS	Prepare and cook to order a variety of foods that require only a short preparation time. May take orders from customers and serve patrons at counters or tables.	High-end: \$24,550 Median: \$17,250 Low-end: \$14,430	 Projected Average Annual Openings: 38
Counter attendants, cafeteria, food concession, and coffee shop	ESR	Serve food to diners at counter or from a steam table.	High-end: \$16,810 Median: \$14,660 Low-end: \$13,720	 Projected Average Annual Openings: 117

HOSPITALITY AND TOURISM OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Short-Term On-The-Job Training				
Dining room and cafeteria attendants and bartender helpers	SE	Facilitate food service. Clean tables, carry dirty dishes, replace soiled table linens; set tables; replenish supply of clean linens, silverware, glassware, and dishes; supply service bar with food, and serve water, butter, and coffee to patrons.	High-end: \$15,950 Median: \$14,780 Low-end: \$13,790	 Projected Average Annual Openings: 60
Dishwashers	SRE	Clean dishes, kitchen, food preparation equipment, or utensils.	High-end: \$17,170 Median: \$15,140 Low-end: \$13,950	 Projected Average Annual Openings: 124
Food preparation workers	REA	Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea.	High-end: \$20,730 Median: \$18,030 Low-end: \$15,540	 Projected Average Annual Openings: 129
Food servers, nonrestaurant	RSE	Serve food to patrons outside of a restaurant environment, such as in hotels, hospital rooms, or cars.	High-end: \$19,760 Median: \$16,950 Low-end: \$14,730	 Projected Average Annual Openings: 20
Hosts and hostesses, restaurant, lounge, and coffee shop	RSE	Welcome patrons, seat them at tables or in lounge, and help ensure quality of facilities and service.	High-end: \$16,470 Median: \$14,960 Low-end: \$13,880	 Projected Average Annual Openings: 88
Hotel, motel, and resort desk clerks	CES	Accommodate hotel, motel, and resort patrons by registering and assigning rooms to guests, issuing room keys, transmitting and receiving messages, keeping records of occupied rooms and guests' accounts, and making and confirming reservations.	High-end: \$19,200 Median: \$16,750 Low-end: \$14,820	 Projected Average Annual Openings: 140
Janitors and cleaners, except maids and housekeeping cleaners	ERC	Keep buildings in clean and orderly condition. Perform heavy cleaning duties, such as cleaning floors, shampooing rugs, washing walls and glass, and removing rubbish. Duties may include tending furnace and boiler, performing routine maintenance activities.	High-end: \$25,010 Median: \$20,180 Low-end: \$16,410	 Projected Average Annual Openings: 386
Landscaping and ground-keeping workers	R	Landscape or maintain grounds of property using hand or power tools or equipment. Workers typically perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, or raking	High-end: \$27,200 Median: \$21,080 Low-end: \$17,120	 Projected Average Annual Openings: 182
Maids and housekeeping cleaners	ERC	Perform any combination of light cleaning duties to maintain private households or commercial establishments, such as hotels, restaurants, and hospitals, in a clean and orderly manner. Duties include making beds, replenishing linens, and cleaning rooms.	High-end: \$18,690 Median: \$16,190 Low-end: \$14,420	 Projected Average Annual Openings: 268
Nonfarm animal caretakers	EC	Feed, water, groom, bathe, exercise, or otherwise care for pets and other nonfarm animals, such as dogs, cats, ornamental fish or birds, zoo animals, and mice. Work in settings such as kennels, animal shelters, zoos, circuses, and aquariums.	High-end: \$19,430 Median: \$16,940 Low-end: \$14,840	 Projected Average Annual Openings: 24

HOSPITALITY AND TOURISM OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Short-Term On-The-Job Training (cont.)				
Reservation and transportation ticket agents and travel clerks	CES	Make and confirm reservations and sell tickets to passengers and for large hotel or motel chains. May check baggage and direct passengers to designated concourse, pier, or track; make reservations, deliver tickets, and arrange for visas.	<p>High-end: \$38,010 Median: \$25,040 Low-end: \$19,380</p>	<p>Projected Average Annual Openings: 18</p>
Waiters and waitresses	R	Take orders and serve food and beverages to patrons at tables in dining establishment.	<p>High-end: \$16,220 Median: \$14,760 Low-end: \$13,780</p>	<p>Projected Average Annual Openings: 696</p>

INFORMATION TECHNOLOGY OCCUPATIONS

Do you enjoy working with computers?

Have you created your own webpage?

Is mathematics a favorite subject?

Are you organized and detail-oriented?

Do you learn new

computer programs quickly?

Information Technology (IT) is an area that is growing and always changing with new developments. In IT, you would be part of a cluster that continues to make an impact on society and individuals. You would have the opportunity to work in all types and sizes of businesses from Microsoft to your local hospital.

Employees in Information Technology work with computer hardware, software, multimedia, and network systems. In this cluster, you might design new computer equipment or computer games. Or you might make sure that the software or networks are working. In addition, you might have to make sure that people know how to use them. Or you might manage whole networks that link workers in all parts of the world.

National Employment Outlook

There will be many opportunities for employment in the Information Technology cluster in the future. Employees in this cluster will be expected to have a high level of skills and to keep up with changes in technology. More companies are relying on information technology. Computers and related hardware are getting cheaper and faster and more advanced. Electronic commerce is becoming more common. All this increases the need for employees with expertise in information technology.

Pathways

Network Systems

The work done by the employees in the Network Systems pathway is critical to the success of almost every company. You would be involved in designing, installing, and maintaining network systems. These systems allow workers to share information and projects. For example, in a medical facility, a network system would allow several doctors to view a patient's X-rays at the same time. They then could work together to determine the problem and best treatment.

Information Support and Services








In the Information Support and Services pathway, you would set up computers, install the software, and make sure that everything is working. If there is a problem, you would find the best solution and test it. You may also be expected to teach other employees how to use the software. In some businesses, you may have to make adaptations in the software to meet specific company needs. Or you may integrate software programs or databases.

INFORMATION TECHNOLOGY OCCUPATIONS









Programming and Software Development

In the Programming and Software Development pathway, you would design and test new software programs. You would be developing tomorrow's products for businesses and individuals. You

could be employed by large software companies or small businesses that design programs for special groups such as medical offices. To work in this area, you have to know about operating systems and programming languages.

Occupation	Interest Profile	Description	Wages	Outlook
Master's Degree				
Librarians	ACI	Administer libraries and perform related library services. Work in a variety of settings, including public libraries, schools, colleges and universities, museums, corporations, government agencies, law firms, non-profit organizations, and healthcare providers.	High-end: \$47,090 Median: \$37,270 Low-end: \$26,620	 Projected Average Annual Openings: 22
Survey researchers		Design or conduct surveys. May supervise interviewers who conduct the survey in person or over the telephone. May present survey results to client.	High-end: \$15,800 Median: \$14,790 Low-end: \$13,790	 Projected Average Annual Openings: 6
Bachelor's Degree or Higher, plus Work Experience in a Related Field				
Computer and information systems managers	ECI	Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	High-end: \$92,720 Median: \$74,960 Low-end: \$62,180	 Projected Average Annual Openings: 9
Bachelor's Degree				
Computer programmers	IRC	Convert project specifications and statements of problems and procedures to detailed logical flow charts for coding into computer language. Develop and write computer programs to store, locate, and retrieve specific documents, data, and information.	High-end: \$61,600 Median: \$44,680 Low-end: \$34,890	 Projected Average Annual Openings: 35
Computer software engineers, applications	IRC	Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency.	High-end: \$77,230 Median: \$65,010 Low-end: \$52,810	 Projected Average Annual Openings: 40
Computer systems analysts	IRE	Analyze science, engineering, business, and all other data processing problems for application to electronic data processing systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities.	High-end: \$73,330 Median: \$58,620 Low-end: \$46,030	 Projected Average Annual Openings: 44
Network and computer systems administrators	IRC	Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet system or a segment of a network system. Maintain network hardware and software. Monitor network to ensure network availability to all system users.	High-end: \$59,860 Median: \$48,540 Low-end: \$38,740	 Projected Average Annual Openings: 34

INFORMATION TECHNOLOGY OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Bachelor's Degree				
Network systems and data communications analysts	IR	Analyze, design, test, and evaluate network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, and other data communications systems. Perform network modeling, analysis, and planning.	High-end: \$60,230 Median: \$47,120 Low-end: \$38,530	 Projected Average Annual Openings: 26
Associate Degree				
Computer support specialists	ICR	Provide technical assistance to computer system users. Answer questions or resolve computer problems for clients in person, via telephone or from remote location. May provide assistance concerning the use of computer hardware and software, including print	High-end: \$42,830 Median: \$34,490 Low-end: \$26,890	 Projected Average Annual Openings: 55
Postsecondary Vocational Training				
Computer, automated teller, and office machine repairers	RCE	Repair, maintain, or install computers, word processing systems, automated teller machines, and electronic office machines, such as duplicating and fax machines.	High-end: \$38,350 Median: \$33,060 Low-end: \$27,300	 Projected Average Annual Openings: 6
Long-Term On-the-Job Training				
Telecommunications equipment installers and repairers, except line installers	RCE	Set-up, rearrange, or remove switching and dialing equipment used in central offices. Service or repair telephones and other communication equipment on customers' property. May install equipment in new locations or install wiring and telephone jacks in bu	High-end: \$58,520 Median: \$53,440 Low-end: \$41,430	 Projected Average Annual Openings: 15
Telecommunications line installers and repairers	R	String and repair telephone and television cable, including fiber optics and other equipment for transmitting messages or television programming.	High-end: \$56,910 Median: \$47,640 Low-end: \$36,570	 Projected Average Annual Openings: 18
Moderate-Term On-the-Job Training				
Computer operators	CE	Monitor and control electronic computer and peripheral electronic data processing equipment to process business, scientific, engineering, and other data according to operating instructions. May enter commands at a computer terminal and set controls on com	High-end: \$35,890 Median: \$28,940 Low-end: \$23,510	 Projected Average Annual Openings: 4
Data entry keyers	CES	Operate data entry device, such as keyboard or photo composing perforator. Duties may include verifying data and preparing materials for printing.	High-end: \$25,680 Median: \$21,670 Low-end: \$18,290	 Projected Average Annual Openings: 21
Short-Term On-the-Job Training				
Library technicians	CS	Assist librarians by helping readers in the use of library catalogs, databases, and indexes to locate books and other materials; and by answering questions that require only brief consultation of standard reference. Compile records; sort and shelf books;	High-end: \$26,370 Median: \$21,080 Low-end: \$17,240	 Projected Average Annual Openings: 22

MARKETING, SALES, AND SERVICE OCCUPATIONS

Do you sell advertising space for the school yearbook or newspaper?

Are you good at persuading people to do things?

Do you like to do public speaking or debating?

Are you good at organizing your own time?

Are you friendly and outgoing?

If you are interested in working in the Marketing, Sales, and Service cluster, you would help businesses sell products. You might advertise and promote products so customers would want to buy them. Or you might sell products and services directly to customers. Or you might use the Internet to reach customers.

National Employment Outlook

In the future, there will be many job opportunities in the Marketing, Sales, and Service cluster. The number of people employed in sales and marketing is very large. Numerous job openings will result from turnover. Many people leave for higher paying jobs or for the opportunity to work regular hours. E-commerce has affected the number of sales persons who are needed because companies and individuals place orders directly. The glamour of advertising attracts many jobseekers. As a result there are many more jobseekers than there are job openings. New jobs will be created because of an increased demand for advertising services. However, the increased use of technology could replace some workers.

Pathways

Management and Entrepreneurship

In the Management and Entrepreneurship pathway, employees direct the marketing operations. The responsibilities include advertising, marketing, sales, and public relations. You might work in a large corporation and direct the activities of several employees. Or you might work for a small company and do all the activities yourself.

Professional Sales and Marketing

Employees in the Professional Sales and Marketing pathway make sure that goods and services are sold to consumers. The consumers may be other businesses or individuals.

Buying and Merchandising

Employees in the Buying and Merchandising pathway get the product into the hands of the customer. You might buy the products that the businesses sell. Or you might design the display and packaging for the product. Or you might assist the customers with making decisions about which products best meets their needs.

Marketing Communications and Promotion

Marketing Communications and Promotion employees design and implement marketing plans. You might cre-

ate ads for television or magazines. Or you might develop spot ads for radio so an organization becomes better known by the public.

Marketing Information Management and Research

Employees in Marketing Information Management and Research collect and analyze many different types of information. The information is used to design new products and to predict future sales. Or you might get information to compare your company against a competitor.










Distribution and Logistics

Employees in the Distribution and Logistics pathway arrange delivery of products to stores for sales and also to customers. You would make sure that there are enough products to be sold and that the products are on the shelves. You would also make sure the correct products or services are delivered to the customers.











E-Marketing

Employees in the E-marketing pathway use the Internet to sell products and services. You might create the content for the website. You might provide the services by taking the orders and arranging for delivery. Or you might do market research using the latest electronic tools.








MARKETING, SALES, & SERVICE OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Master's Degree				
Market research analysts	IEC	Research market conditions in local, regional, or national areas to determine potential sales of a product or service. May gather information on competitors, prices, sales, and methods of marketing and distribution. May use survey results to create a marketing plan.	High-end: \$57,330 Median: \$41,670 Low-end: \$33,360	 Projected Average Annual Openings: 12
Bachelor's Degree				
Property, real estate, and community association managers	EC	Plan, direct, or coordinate selling, buying, leasing, or governance activities of commercial, industrial, or residential real estate properties.	High-end: \$31,560 Median: \$26,160 Low-end: \$19,060	 Projected Average Annual Openings: 52
Postsecondary Vocational Training				
Appraisers and assessors of real estate	CE	Appraise real property to determine its fair value. May assess taxes in accordance with prescribed schedules.	High-end: \$44,460 Median: \$33,700 Low-end: \$15,510	 Projected Average Annual Openings: 18
Real estate sales agents	ERS	Rent, buy, or sell property for clients. Perform duties, such as study property listings, interview prospective clients, accompany clients to property site, discuss conditions of sale, and draw up real estate contracts.	High-end: \$61,920 Median: \$36,970 Low-end: \$19,560	 Projected Average Annual Openings: 45
Work Experience in a Related Field				
First-line supervisors/managers of non-retail sales workers	RAC	Directly supervise and coordinate activities of sales workers other than retail sales workers. May perform duties, such as budgeting, accounting, and personnel work, in addition to supervisory duties.	High-end: \$62,700 Median: \$53,270 Low-end: \$38,820	 Projected Average Annual Openings: 61
First-line supervisors/managers of retail sales workers	SRE	Directly supervise sales workers in a retail establishment or department. Duties may include management functions, such as purchasing, budgeting, accounting, and personnel work, in addition to supervisory duties.	High-end: \$37,750 Median: \$29,030 Low-end: \$23,210	 Projected Average Annual Openings: 201
Purchasing agents, except wholesale, retail, and farm products	EC	Purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Purchase raw or semi-finished materials for manufacturing.	High-end: \$57,760 Median: \$42,200 Low-end: \$32,610	 Projected Average Annual Openings: 17
Real estate brokers	ES	Operate real estate office, or work for commercial real estate firm, overseeing real estate transactions. Other duties usually include selling real estate or renting properties and arranging loans.	High-end: \$67,860 Median: \$60,310 Low-end: \$54,360	 Projected Average Annual Openings: 10
Wholesale and retail buyers, except farm products	ECS	Buy merchandise or commodities, other than farm products, for resale to consumers at the wholesale or retail level, including both durable and nondurable goods. Analyze past buying trends, sales records, price, and quality of merchandise to determine value.	High-end: \$54,070 Median: \$39,760 Low-end: \$29,670	 Projected Average Annual Openings: 30

MARKETING, SALES, & SERVICE OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Moderate-Term On-the-Job Training				
Advertising sales agents	ERC	Sell or solicit advertising, including graphic art, advertising space in publications, custom made signs, or TV and radio advertising time. May obtain leases for outdoor advertising sites or persuade retailer to use sales promotion display items.	High-end: \$38,840 Median: \$27,230 Low-end: \$19,830	 Projected Average Annual Openings: 28
Customer service representatives	CE	Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints.	High-end: \$32,490 Median: \$25,160 Low-end: \$19,880	 Projected Average Annual Openings: 250
Demonstrators and product promoters	ERS	Demonstrate merchandise and answer questions for the purpose of creating public interest in buying the product. May sell demonstrated merchandise.	High-end: \$24,690 Median: \$18,680 Low-end: \$16,930	 Projected Average Annual Openings: 23
Floral designers	ARE	Design, cut, and arrange live, dried, or artificial flowers and foliage.	High-end: \$22,200 Median: \$18,420 Low-end: \$15,900	 Projected Average Annual Openings: 11
Merchandise displayers and window trimmers	ARE	Plan and erect commercial displays, such as those in windows and interiors of retail stores and at trade exhibitions.	High-end: \$22,480 Median: \$18,560 Low-end: \$16,840	 Projected Average Annual Openings: 10
Parts salespersons	CER	Sell spare and replacement parts and equipment in repair shop or parts store.	High-end: \$35,720 Median: \$29,500 Low-end: \$24,250	 Projected Average Annual Openings: 15
Sales representatives, wholesale and manufacturing, except technical and scientific products	ECS	Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.	High-end: \$49,280 Median: \$36,970 Low-end: \$27,570	 Projected Average Annual Openings: 162
Sales representatives, wholesale and manufacturing, technical and scientific products	ESC	Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics, normally obtained from at least 2 years of post-secondary education.	High-end: \$62,550 Median: \$45,160 Low-end: \$31,560	 Projected Average Annual Openings: 37
Short-Term On-the-Job Training				
Cashiers	ECS	Receive and disburse money in establishments other than financial institutions. Usually involves use of electronic scanners, cash registers, or related equipment. Often involved in processing credit or debit card transactions and validating checks.	High-end: \$19,230 Median: \$16,320 Low-end: \$14,420	 Projected Average Annual Openings: 713
Counter and rental clerks	ECS	Receive orders for repairs, rentals, and services. May describe available options, compute cost, and accept payment.	High-end: \$23,630 Median: \$18,450 Low-end: \$15,140	 Projected Average Annual Openings: 123

MARKETING, SALES, & SERVICE OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Short-Term On-the-Job Training				
Door-to-door sales workers, news and street vendors, and related workers	ESC	Sell goods or services door-to-door or on the street.	High-end: \$35,590 Median: \$27,360 Low-end: \$19,930	 Projected Average Annual Openings: 20
Driver/sales workers	RSC	Drive truck or other vehicle over established routes or within an established territory and sell goods, such as food products, including restaurant take-out items, or pick up and deliver items, such as laundry. May also take orders and collect payments.	High-end: \$29,110 Median: \$22,820 Low-end: \$15,600	 Projected Average Annual Openings: 28
Order clerks	CSE	Receive and process incoming orders for materials, merchandise, classified ads, or services such as repairs, installations, or rental of facilities. Duties include informing customers of receipt, prices, shipping dates, and delays; and preparing contracts.	High-end: \$30,840 Median: \$24,350 Low-end: \$19,250	 Projected Average Annual Openings: 11
Retail salespersons	CER	Sell merchandise, such as furniture, motor vehicles, appliances, or apparel in a retail establishment.	High-end: \$27,380 Median: \$19,400 Low-end: \$15,690	 Projected Average Annual Openings: 1106
Service Station Attendants	RE	Service automobiles, buses, trucks, boats, and other automotive or marine vehicles with fuel, lubricants, and accessories. Collect payment for services and supplies. May lubricate vehicle, change motor oil, install antifreeze, or replace light.	High-end: \$22,460 Median: \$17,100 Low-end: \$14,900	 Projected Average Annual Openings: 39
Stock clerks and order fillers	CE	Receive, store, and issue sales floor merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves, racks, tables, or customers' orders. May mark prices on merchandise and set up sales displays.	High-end: \$24,710 Median: \$19,710 Low-end: \$16,630	 Projected Average Annual Openings: 131
Telemarketers	ERS	Solicit orders for goods or services over the telephone.	High-end: \$22,580 Median: \$15,790 Low-end: \$14,310	 Projected Average Annual Openings: 37



ENVIRONMENTAL & AGRICULTURAL SYSTEMS CLUSTER



AGRICULTURE, FOOD, AND NATURAL RESOURCES OCCUPATIONS

Do you collect rocks?

Do you have a green thumb?

Do you enjoy working with animals?

Are you interested in protecting the environment?

Do you enjoy working outdoors?

Are science classes your favorite?

If you chose to work in occupations in the Agriculture, Food, and Natural Resources cluster, you could raise plants and animals as sources for food and shelter. On the other hand, you could focus on selling and making products from plants and animals. These products include food, lumber, and fabrics. You might also provide advice and services that farmers and ranchers need to improve products. Another option in this cluster is to work to conserve natural resources and protect the environment.

National Employment Outlook

The prospects in farm production will be limited. There will be a 14 percent decline in the number of self-employed farm and ranch operators in the next ten years.

You will find more jobs in agricultural services. Job openings will arise from the need to replace workers who leave every year. Turnover is very high among animal caretakers and farm and ranch workers. The turnover is the result of the seasonal and part-time nature of the work. Other factors are the low pay and high physical demands.

Employment will increase in landscaping and horticultural services. This will be a result of new construction. In addition, individuals and businesses recognize the value of preserving and restoring existing landscape and grounds. A growing number of homeowners use lawn maintenance and landscaping services to enhance the beauty of their property and to conserve leisure time.

Veterinary services will continue to experience growth because of increases in the number of pet owners. Pet owners are expected to take advantage of grooming services and boarding services.

Employment growth in farm-related agricultural services--crop services, soil preparation services, farm labor and management services, and livestock services--are linked to the health of agricultural production. When farmers and ranchers face difficult times, the demand for agricultural services also drops.

AGRICULTURE, FOOD, & NATURAL RESOURCES OCCUPATIONS

Pathways

Agribusiness

In the Agribusiness pathway, you would focus on products or services. You would actually grow food, fiber, or wood products. Or, you would assist farmers and ranchers by providing important services. This assistance might include granting the loans they need to operate. Other forms of assistance might include selling them the tools, equipment, or supplies they need to operate their farms or ranches. You might also assist them with doing their work or by selling their products to get the best prices.

Animals

In the Animals pathway, you would strive to find better ways to produce and process meat, eggs, and dairy products. You might study the genetics, nutrition, or development of animals. On the other hand, you might purchase livestock from farmers and ranchers or assist them with marketing or selling their animals. To assure that the products are safe to eat, you could inspect and grade meat. To assist farmers and ranchers, you could advise them on how to feed or house their animals to increase production.

Another option is to care for the animals. You might train, feed and water, groom, or exercise the animals. You may also clean, disinfect, and repair their cages, stalls, or barns.

Environmental Service

In the Environmental Service pathway, you would act to protect the environment. You might focus on pollution control, recycling, waste disposal, or public health issues. Your work could involve doing studies to find threats to the ecosystem. Then you would figure out how to deal with the threats and to prevent future problems. You might design and operate wastewater systems. In other occupations in this pathway, you could collect, recycle, and remove hazardous materials.

Food Products and Processing

If you were to study and work in the Food Products and Processing pathway, you would have several options. You might discover new food sources. You could also analyze food content and create new food products. Or, you could inspect processing areas to make sure food is safe to eat.

Natural Resources

In the Natural Resources pathway, you could perform a variety of tasks. Forests and rangelands supply wood products, livestock forage, minerals, and water. They also serve as sites for recreational activities and provide homes for wildlife. You would manage, develop, and help protect the forests and rangelands and other resources.

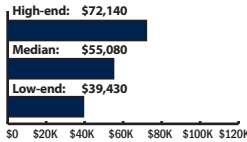


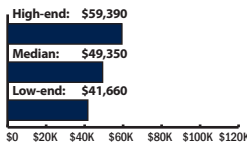


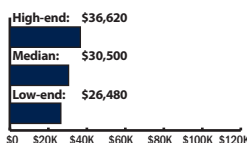

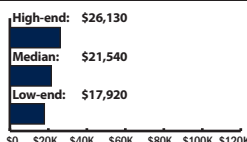

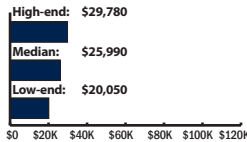


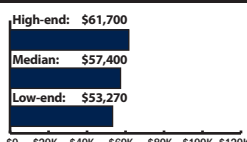

Plants

In the occupations in the Plants pathway, you would study vegetation. Your goal would be to help crop producers feed a growing population. At the same time, you would help them conserve natural resources and protect the environment. You might also develop ways to improve the food value of crops and the quality of seeds. Through research, you could develop plants that require fewer fertilizers, pesticides, and herbicides or that are resistant to drought.

Power, Structural, and Technical Systems

In the Power, Structural, and Technical Systems pathway, you use engineering, mechanics, electronics, and power to improve agriculture. You might design buildings and equipment used on farms and ranches. You might also develop ways to conserve soil and water. Or your goal might be to improve how farm products are processed. Another option for you is to maintain and repair the machines and structures.

AGRICULTURE, FOOD, & NATURAL RESOURCES OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
First Professional Degree				
Veterinarians	IRS	Diagnose and treat diseases and dysfunctions of animals. May engage in a particular function, such as research and development, consultation, administration, technical writing, sale or production of commercial products, or rendering of technical services.	High-end: \$72,140 Median: \$55,080 Low-end: \$39,430 	 Projected Average Annual Openings: 24
Bachelor's Degree or Higher, plus Work Experience in a Related Field				
Farm, ranch, and other agricultural managers	IA	On a paid basis, manage farms, ranches, aquacultural operations, greenhouses, nurseries, timber tracts, cotton gins, packing houses, or other agricultural establishments for employers. Carry out production, financial, and marketing decisions.	Information Not Available	 Projected Average Annual Openings: 13
Bachelor's Degree				
Foresters	RIC	Manage forested lands for economic, recreational, and conservation purposes. May inventory the type, amount, and location of standing timber, appraise the timber's worth, negotiate the purchase, and draw up contracts for procurement.	High-end: \$59,390 Median: \$49,350 Low-end: \$41,660 	 Projected Average Annual Openings: 8
Associate Degree				
Forest and conservation technicians	RIC	Compile data pertaining to size, content, condition, and other characteristics of forest tracts, under direction of foresters; train and lead forest workers in forest propagation, fire prevention and suppression. May assist conservation scientists.	Information Not Available	 Projected Average Annual Openings: 64
Postsecondary Vocational Training				
Farm equipment mechanics	RC	Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.	High-end: \$36,620 Median: \$30,500 Low-end: \$26,480 	 Projected Average Annual Openings: 13
Long-Term On-the-Job Training				
Bakers	RC	Mix and bake ingredients according to recipes to produce breads, rolls, cookies, cakes, pies, pastries, or other baked goods.	High-end: \$26,130 Median: \$21,540 Low-end: \$17,920 	 Projected Average Annual Openings: 30
Butchers and meat cutters	ERC	Cut, trim, or prepare consumer-sized portions of meat for use or sale in retail establishments.	High-end: \$29,780 Median: \$25,990 Low-end: \$20,050 	 Projected Average Annual Openings: 27
Farmers and Ranchers	IA	Operate farms, ranches, greenhouses, nurseries, timber tracts, or other agricultural production establishments. May plant, cultivate, harvest, perform post-harvest activities, and market crops and livestock; may hire, train, and supervise farm workers or supervise a farm labor contractor; may prepare cost, production, and other records. May maintain and operate machinery and perform physical work.	Information Not Available	 Projected Average Annual Openings: 494
Petroleum pump system operators, refinery operators, and gaugers	RC	Control the operation of petroleum refining or processing units. May specialize in controlling manifold and pumping systems, gauging or testing oil in storage tanks, or regulating the flow of oil into pipelines.	High-end: \$61,700 Median: \$57,400 Low-end: \$53,270 	 Projected Average Annual Openings: 17

AGRICULTURE, FOOD, & NATURAL RESOURCES OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Long-Term On-the-Job Training				
Water and liquid waste treatment plant and system operators	RA	Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or liquid waste.	<p>High-end: \$40,350 Median: \$34,610 Low-end: \$27,430</p>	<p>Projected Average Annual Openings: 11</p>
Moderate-Term On-the-Job Training				
Agricultural equipment operators	CR	Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops. May perform tasks, such as crop baling or hay bucking. May operate stationary equipment to perform post-harvest tasks, such as husking, shelling, threshing, and ginning.	<p>High-end: \$32,720 Median: \$24,900 Low-end: \$22,590</p>	<p>Projected Average Annual Openings: 11</p>
Earth drillers, except oil and gas	RC	Operate a variety of drills--such as rotary, churn, and pneumatic--to tap sub-surface water and salt deposits, to remove core samples during mineral exploration or soil testing, and to facilitate the use of explosives in mining or construction. May use ex	<p>High-end: \$50,880 Median: \$44,140 Low-end: \$34,370</p>	<p>Projected Average Annual Openings: 31</p>
Excavating and Loading Machine and Dragline Operators	RC	Operate or tend machinery equipped with scoops, shovels, or buckets, to excavate and load loose materials.	<p>High-end: \$45,840 Median: \$38,490 Low-end: \$32,190</p>	<p>Projected Average Annual Openings: 25</p>
Logging equipment operators	RIC	Drive logging tractor or wheeled vehicle equipped with one or more accessories, such as bulldozer blade, frontal shear, grapple, logging arch, cable winches, hoisting rack, or crane boom, to fell tree; to skid, load, unload, or stack logs; or to pull stumps.	<p>High-end: \$40,900 Median: \$35,950 Low-end: \$30,640</p>	<p>Projected Average Annual Openings: 17</p>
Roustabouts, oil and gas	R	Assemble or repair oil field equipment using hand and power tools. Perform other tasks as needed.	<p>High-end: \$44,690 Median: \$36,260 Low-end: \$28,850</p>	<p>Projected Average Annual Openings: 24</p>
Sawing machine setters, operators, and tenders, wood	RC	Set up, operate, or tend wood sawing machines. Includes head sawyers.	<p>High-end: \$35,210 Median: \$30,460 Low-end: \$22,040</p>	<p>Projected Average Annual Openings: 14</p>
Short-Term On-the-Job Training				
Farmworkers and laborers, crop, nursery, and green-house	CRE	Manually plant, cultivate, and harvest vegetables, fruits, nuts, horticultural specialties, and field crops. Use hand tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives. Duties may include tilling soil and applying fertilize	<p>High-end: \$25,710 Median: \$19,730 Low-end: \$15,280</p>	<p>Projected Average Annual Openings: 69</p>
Farmworkers, farm and ranch animals	R	Attend to live farm, ranch, or aquacultural animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, finfish, shellfish, and bees. Attend to animals produced for animal products.	<p>High-end: \$26,280 Median: \$19,160 Low-end: \$15,520</p>	<p>Projected Average Annual Openings: 51</p>

HEALTH SCIENCES CLUSTER



HEALTH SCIENCE OCCUPATIONS

Are science classes your favorite?

Do you enjoy helping people?

Have you served as a volunteer in a hospital?

Do you follow instructions exactly?

Can you work fast in an emergency?

Do you take good notes in class?

In the Health Science cluster you would promote health and wellness or diagnose and treat injuries and disease. You could work directly with people. Or you could work in laboratories to get information used in research or diagnosis. Health service employees go to work at a variety of different sites. Some work in hospitals, offices, or laboratories. Others work on cruise ships, at sports arenas, or within communities.

National Employment Outlook

The outlook for employment in the Health Services cluster is very good. The number of elderly people is growing and they have greater healthcare needs. Advances in medical technology have increased the number of people who survive serious illnesses and injuries. These patients need more intensive therapy and care. The jobs in hospitals will grow the slowest. This is the result of an increase in outpatient care and services.

Pathways

Therapeutic Services

In the Therapeutic Services pathway, you work directly with patients to improve their health. The contact with the patient may be limited to a visit or to contact over many months. You may provide direct care and treatment for patients. You may also give information and counseling so patients can care for themselves.

Diagnostics Services

In the Diagnostics Services pathway, you would conduct tests and do evaluations. The goal is to assist

with detecting and identifying diseases and injuries. Once the diagnosis is made, the test results would be used to set up a treatment plan.

Health Information

You would be responsible for compiling patient information and records in the Health Information pathway. You might also use the records to create bills for services. Included in this pathway are administrators who plan and direct the delivery of health care. You may manage hospitals, nursing homes, clinics, or departments.








HEALTH SCIENCE OCCUPATIONS

Support Services










Employees in the Support Services pathway provide assistance so that therapeutic services workers can do their job. You might make sure that medical machines operate. Or you might make sure that medical offices operate smoothly. Or you might be sure that patients and employees get meals that are healthy and meet diet guidelines.

Biotechnology Research and Development

In the Biotechnology Research and Development pathway, you would be a scientist who works in a laboratory. Through your research, you would try to discover new treatments for diseases or injuries. Or you may work to invent medical devices to help patients live fuller lives. The inventions you work on may also lead to more accurate test results.

Occupation	Interest Profile	Description	Wages	Outlook
First Professional Degree				
Family and general practitioners	IRC	Diagnose, treat, and help prevent diseases and injuries that commonly occur in the general population.	High-end: Info Not Available Median: \$138,140 Low-end: \$113,130	 Projected Average Annual Openings: 13
Pharmacists	ARE	Compound and dispense medications following prescriptions issued by physicians, dentists, or other authorized medical practitioners.	High-end: \$98,380 Median: \$89,820 Low-end: \$79,870	 Projected Average Annual Openings: 52
Master's Degree				
Physical therapists	I	Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of patients suffering from disease or injury.	High-end: \$64,230 Median: \$56,820 Low-end: \$46,540	 Projected Average Annual Openings: 28
Bachelor's Degree				
Medical and clinical laboratory technologists	SI	Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff.	High-end: \$56,430 Median: \$47,180 Low-end: \$39,510	 Projected Average Annual Openings: 16
Associate Degree				
Dental hygienists	IR	Clean teeth and examine oral areas, head, and neck for signs of oral disease. May educate patients on oral hygiene, take and develop X-rays, or apply fluoride or sealants.	High-end: \$72,180 Median: \$62,930 Low-end: \$55,480	 Projected Average Annual Openings: 27
Medical records and health information technicians	CR	Compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the health care system. Process, maintain, compile, and report patient information.	High-end: \$34,470 Median: \$27,540 Low-end: \$21,800	 Projected Average Annual Openings: 35
Radiologic technologists and technicians	IR	Take X-rays and CAT scans or administer nonradioactive materials into patient's blood stream for diagnostic purposes. Includes technologists who specialize in other modalities, such as computed tomography and magnetic resonance.	High-end: \$55,730 Median: \$46,590 Low-end: \$39,460	 Projected Average Annual Openings: 23

HEALTH SCIENCE OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Associate Degree				
Registered nurses	IRE	Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention.	High-end: \$61,360 Median: \$52,450 Low-end: \$44,460	 Projected Average Annual Openings: 317
Respiratory therapists	SI	Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures.	High-end: \$49,560 Median: \$45,030 Low-end: \$40,530	 Projected Average Annual Openings: 12
Postsecondary Vocational Training				
Emergency medical technicians and paramedics	SC	Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities.	High-end: \$29,380 Median: \$22,220 Low-end: \$15,600	 Projected Average Annual Openings: 19
Licensed practical and licensed vocational nurses	SRI	Care for ill, injured, convalescent, or disabled persons in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required.	High-end: \$36,920 Median: \$32,180 Low-end: \$28,130	 Projected Average Annual Openings: 113
Medical secretaries	CES	Perform secretarial duties utilizing specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties include scheduling appointments, billing patients, and compiling and recording medical charts, reports, and correspondence.	High-end: \$31,370 Median: \$26,940 Low-end: \$21,850	 Projected Average Annual Openings: 51
Medical transcriptionists	SR	Use transcribing machines with headset and foot pedal to listen to recordings by physicians and other healthcare professionals dictating a variety of medical reports, such as emergency room visits, diagnostic imaging studies, operations, and chart reviews.	High-end: \$31,760 Median: \$28,120 Low-end: \$23,750	 Projected Average Annual Openings: 11
Long-Term On-the-Job Training				
Opticians, dispensing	SRI	Design, measure, fit, and adapt lenses and frames for client according to written optical prescription or specification. Assist client with selecting frames. Measure customer for size of eyeglasses and coordinate frames with facial and eye measurements.	High-end: \$28,150 Median: \$23,710 Low-end: \$19,710	 Projected Average Annual Openings: 22
Moderate-Term On-the-Job Training				
Dental assistants	SR	Assist dentist, set up patient and equipment, and keep records.	High-end: \$32,960 Median: \$28,330 Low-end: \$23,400	 Projected Average Annual Openings: 35
Medical assistants		Perform administrative and certain clinical duties under the direction of physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding for insurance purposes.	High-end: \$29,800 Median: \$26,090 Low-end: \$21,920	 Projected Average Annual Openings: 32

HEALTH SCIENCE OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Moderate-Term On-the-Job Training				
Pharmacy technicians	RI	Prepare medications under the direction of a pharmacist. May measure, mix, count out, label, and record amounts and dosages of medications.	<p>High-end: \$31,540 Median: \$27,460 Low-end: \$23,900</p>	 Projected Average Annual Openings: 62
Short-Term On-the-Job Training				
Home health aides	CR	Provide routine, personal healthcare, such as bathing, dressing, or grooming, to elderly, convalescent, or disabled persons in the home of patients or in a residential care facility.	<p>High-end: \$22,230 Median: \$19,370 Low-end: \$16,860</p>	 Projected Average Annual Openings: 106
Nursing aides, orderlies, and attendants	ECR	Provide basic patient care under direction of nursing staff. Perform duties, such as feed, bathe, dress, groom, or move patients, or change linens.	<p>High-end: \$23,360 Median: \$20,590 Low-end: \$18,050</p>	 Projected Average Annual Openings: 157
Psychiatric aides	SR	Assist mentally impaired or emotionally disturbed patients, working under direction of nursing and medical staff.	<p>High-end: \$29,500 Median: \$24,580 Low-end: \$21,370</p>	 Projected Average Annual Openings: 4





HUMAN SERVICES & RESOURCES CLUSTER

THIS CLUSTER INCLUDES:

Education & Training Occupations

Government & Public Administration Occupations

Human Services Occupations

Law, Public Safety, & Security Occupations



EDUCATION AND TRAINING OCCUPATIONS

Are you patient?

Have you coached sports activities?

Do you like to speak in front of groups?

Do you enjoy teaching games to children?

Are you outgoing?

Do you like being in school?

In the Education and Training cluster, you would have the opportunity to guide and train young people. As a teacher, you could influence young lives. In addition, you could support the work of the classroom teacher as a counselor, librarian, or principal. If you are interested in working with adults, you could provide training to employees in a business. Each of these settings provides you with the chance to help people learn and improve their lives.

National Employment Outlook

Most of the openings in education will result from workers and educators retiring. In the future there may not be enough teachers graduating from college to fill the job openings. Positions in math, science, bilingual, and special education will continue to be difficult to fill.

However, many state governments and local school districts are facing budget problems. As a result, schools are cutting support services and some educational programs. If these financial problems continue, more schools will combine and more programs will be cut. As a result employment may grow more slowly.

EDUCATION & TRAINING OCCUPATIONS

Pathways

Teaching and Training

As an educator in the Teaching and Training pathway, you would teach others about a subject you love. You could inspire young learners. This would require you to have the ability to communicate with and motivate learners. To do this, you would have to understand their diverse needs and individual differences. To help each learner achieve, you would use a variety of teaching methods and tools.






Professional Support Services

The Professional Support Services pathway includes occupations that are important for the success of schools and learners. You would assist learners with

physical, personal, and family needs. These needs might be barriers to success in school. Or you might guide learners as they develop educational and career goals.

Administration and Administrative Support





For a school to operate smoothly, someone must be in charge. In the Administration and Administrative Support pathway, you would manage all the activities in a school. You might also run preschools, day-care centers, colleges, and universities. On the other hand, you might support the work of teachers and administrators.

Occupation	Interest Profile	Description	Wages	Outlook
Doctoral Degree				
Education teachers, postsecondary		Teach courses pertaining to education, such as counseling, curriculum, guidance, instruction, teacher education, and teaching English as a second language.	High-end: \$51,640 Median: \$36,640 Low-end: \$14,520	 Projected Average Annual Openings: 14
Master's Degree				
Educational, vocational, and school counselors	SAC	Counsel individuals and provide group educational and vocational guidance services.	High-end: \$50,010 Median: \$36,970 Low-end: \$24,330	 Projected Average Annual Openings: 35
Speech-language pathologists	SRI	Assess and treat persons with speech, language, voice, and fluency disorders. May select alternative communication systems and teach their use. May perform research related to speech and language problems.	High-end: \$62,220 Median: \$55,720 Low-end: \$46,070	 Projected Average Annual Openings: 8
Bachelor's Degree or Higher, plus Work Experience in a Related Field				
Education administrators, elementary and secondary school	CEI	Plan, direct, or coordinate the academic, clerical, or auxiliary activities of public or private elementary or secondary level schools.	High-end: \$75,150 Median: \$64,360 Low-end: \$54,470	 Projected Average Annual Openings: 28
Education administrators, postsecondary	EISC	Plan, direct, or coordinate research, instructional, student administration and services, and other educational activities at postsecondary institutions, including universities, colleges, and junior and community colleges.	Information Not Available	 Projected Average Annual Openings: 20

EDUCATION & TRAINING OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Bachelor's Degree				
Adult literacy, remedial education, and GED teachers and instructors	SA	Teach or instruct out-of-school youths and adults in remedial education classes, preparatory classes for the General Educational Development test, literacy, or English as a Second Language. Teaching may or may not take place in a traditional educational institutions.	<p>High-end: \$40,050 Median: \$31,460 Low-end: \$27,560</p>	 Projected Average Annual Openings: 4
Elementary school teachers, except special education	SAI	Teach pupils in public or private schools at the elementary level basic academic, social, and other formative skills.	<p>High-end: \$47,140 Median: \$34,940 Low-end: \$23,830</p>	 Projected Average Annual Openings: 221
Kindergarten teachers, except special education	SAI	Teach elemental natural and social science, personal hygiene, music, art, and literature to children from 4 to 6 years old. Promote physical, mental, and social development. May be required to hold State certification.	<p>High-end: \$45,240 Median: \$34,630 Low-end: \$26,000</p>	 Projected Average Annual Openings: 16
Middle school teachers, except special and vocational education	SAI	Teach students in public or private schools in one or more subjects at the middle, intermediate, or junior high level, which falls between elementary and senior high school as defined by applicable State laws and regulations.	<p>High-end: \$46,080 Median: \$33,800 Low-end: \$23,650</p>	 Projected Average Annual Openings: 62
Secondary school teachers, except special and vocational education	SAI	Instruct students in secondary public or private schools in one or more subjects at the secondary level, such as English, mathematics, or social studies. May be designated according to subject matter specialty.	<p>High-end: \$47,490 Median: \$36,580 Low-end: \$27,570</p>	 Projected Average Annual Openings: 161
Special education teachers, preschool, kindergarten, and elementary school	SAI	Teach elementary and preschool school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills.	<p>High-end: \$46,440 Median: \$35,400 Low-end: \$28,730</p>	 Projected Average Annual Openings: 18
Training and development specialists	SEC	Conduct training and development programs for employees.	<p>High-end: \$49,140 Median: \$38,950 Low-end: \$31,870</p>	 Projected Average Annual Openings: 19
Postsecondary Vocational Training				
Preschool teachers, except special education	SAC	Instruct children (normally up to 5 years of age) in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. May be required to hold State certification.	<p>High-end: \$35,490 Median: \$26,520 Low-end: \$18,170</p>	 Projected Average Annual Openings: 44
Fitness trainers and aerobics instructors	SA	Instruct or coach groups or individuals in exercise activities and the fundamentals of sports. Demonstrate techniques and methods of participation. Observe participants and inform them of corrective measures necessary to improve their skills.	<p>High-end: \$23,950 Median: \$18,930 Low-end: \$16,340</p>	 Projected Average Annual Openings: 40

EDUCATION & TRAINING OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Work Experience in a Related Occupation				
Self-enrichment education teachers	SA	Teach or instruct courses other than those that normally lead to an occupational objective or degree. Courses may include self-improvement, nonvocational, and nonacademic subjects. Teaching may or may not take place in a traditional educational institutions.	High-end: \$29,760 Median: \$22,980 Low-end: \$15,660	 Projected Average Annual Openings: 29
Vocational education teachers, post-secondary	SRE	Teach or instruct vocational or occupational subjects at the postsecondary level (but at less than the baccalaureate) to students who have graduated or left high school.	High-end: \$48,640 Median: \$37,180 Low-end: \$22,090	 Projected Average Annual Openings: 10
Long-Term On-the-Job Training				
Coaches and scouts	ERS	Instruct or coach groups or individuals in the fundamentals of sports. Demonstrate techniques and methods of participation. May evaluate athletes' strengths and weaknesses as possible recruits or to improve the athletes' technique to prepare them for competitions.	High-end: \$20,830 Median: \$15,480 Low-end: \$14,090	 Projected Average Annual Openings: 56
Short-Term On-the-Job Training				
Teacher assistants	SCA	Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher or another professional has ultimate responsibility for the design and implementation of educational programs and services.	High-end: \$21,190 Median: \$18,180 Low-end: \$15,750	 Projected Average Annual Openings: 118

GOVERNMENT AND PUBLIC ADMINISTRATION OCCUPATIONS

Have you served as an officer of a club or organization?

Do you like to plan and organize activities?

Are you interested in politics?

Would you like to work in another country?

Are rules and laws important to you?

Through the national, state, and local governments, the public can express its will and make our way of life possible. Through government, individuals can act together to accomplish what cannot be done alone. Most of these actions are carried out only by the government. For example, the federal government includes the military for protection. It also includes ambassadors who represent us in foreign countries. It is Congress that passes laws. The Administration carries out and enforces those laws. You would find almost every occupation within the government. However, this Government and Public Administration career cluster focuses on those occupations that are unique.

National Employment Outlook

The job opportunities in the Federal Government are expected to decline. There are several reasons for this decrease. First, the government is cutting costs. Second, programs are using private contractors to do the work. Third, the implementation of programs is being turned over to state and local governments. In addition, there will be strong competition for any job openings.

GOVERNMENT AND PUBLIC ADMINISTRATION OCCUPATIONS

Employment opportunities in state and local governments are expected to increase. The growth is a result of increased demand for services at the state and local level. Also, Federal programs are being turned over to states. However, many state governments are experiencing budget problems. If the problems continue, states may have to cut costs and employees. In all levels of government, employment is affected by the increased use of technology. As a result, the need for office support workers will grow slowly.

Pathways

Governance

In the Governance pathway, you would be an elected or appointed government official. You would be in charge of making and carrying out public policy. This pathway includes the President and members of Congress, governors, state legislators, and local elected officials. It also includes the staff members who support them. You would work with the individuals and groups you speak for in the government.

National Security

The military services protect the country and its citizens. In the National Security pathway, you might run a hospital, operate a tank, program computers, or repair a helicopter. The military provides you with training and experience. You could serve in the active Army, Navy, Marine Corps, Air Force, and Coast Guard, their Reserve components, and the Air and Army National Guard.

Foreign Security

People in the Foreign Security pathway work in embassies, consulates, or diplomatic missions and in Washington, D.C. In your job, you may manage the day-to-day operations of an embassy. Or you might analyze political and economic events and give advice to Congress or the President. Or you might help American citizens abroad.

Planning

People who work in the Planning pathway develop plans for use of land. You would prepare for the growth of communities. In addition, you would help local officials make decisions about the best use of land and resources.

Revenue and Taxation


People who work in the Revenue and Taxation pathway collect taxes. The taxes provide the money the national, state, and local governments need to operate.

Regulation






People who work in the Regulation pathway protect our health, safety, and environment. You would make sure that our money, highways, airplanes, and power plants are safe. You would do inspections, audits, or investigations. Your goal is to enforce government rules and regulations.

Public Management and Administration

In Public Management and Administration, you would do the work of the government. You would implement the plans and programs developed by the elected officials.

Occupation	Interest Profile	Description	Wages	Outlook
Long-Term On-the-Job Training				
Compliance officers, except agriculture, construction, health & safety, and transportation	CR	Examine, evaluate, and investigate eligibility for or conformity with laws and regulations governing contract compliance of licenses and permits, and other compliance and enforcement inspection activities not classified elsewhere.	High-end: \$54,810 Median: \$41,100 Low-end: \$32,800	 Projected Average Annual Openings: 19

GOVERNMENT AND PUBLIC ADMINISTRATION OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Short-Term On-the-Job Training				
Court, municipal, and license clerks	CE	Perform clerical duties in courts of law, municipalities, and governmental licensing agencies and bureaus. May prepare docket of cases to be called; secure information for judges and court; prepare draft agendas or bylaws for town or city council.	High-end: \$30,480 Median: \$25,690 Low-end: \$21,970	 Projected Average Annual Openings: 17
Interviewers, except eligibility and loan	CE	Interview persons by telephone, mail, in person, or by other means for the purpose of completing forms, applications, or questionnaires. Ask specific questions, record answers, and assist persons with completing form. May sort, classify, and file forms.	High-end: \$27,660 Median: \$23,410 Low-end: \$20,990	 Projected Average Annual Openings: 38
Postal service mail carriers	SCR	Sort mail for delivery. Deliver mail on established route by vehicle or on foot.	High-end: \$48,440 Median: \$43,900 Low-end: \$38,740	 Projected Average Annual Openings: 30
Postal service mail sorters, processors, and processing machine operators	CR	Prepare incoming and outgoing mail for distribution. Examine, sort, and route mail by State, type of mail, or other scheme. Load, operate, and occasionally adjust and repair mail processing, sorting, and canceling machinery. Keep records of shipments.	High-end: \$44,840 Median: \$37,970 Low-end: \$23,650	 Projected Average Annual Openings: 8
Refuse and Recyclable Material Collectors	R	Collect and dump refuse or recyclable materials from containers into truck. May drive truck.	High-end: \$35,520 Median: \$31,540 Low-end: \$24,460	 Projected Average Annual Openings: 17

HUMAN SERVICES OCCUPATIONS

Do you help friends with their personal problems?

Do you care about people and want to help them?

Have you cared for children or done babysitting?

Are you a good listener?

Have you planned programs for school or community organizations?

In the Human Services cluster, you would work with individuals and families to meet their personal needs.

National Employment Outlook

You should be able to find jobs in human services in the future. The expected growth is partly due to expanded services for the elderly. In addition, the demand for childcare services is increasing. In the occupations in this cluster where wages are low, the turnover is high. Service for the mentally ill and disabled have been increasing. However, state and local governments might cut programs for these groups to deal with budget problems.

HUMAN SERVICES OCCUPATIONS

Pathways

Early Childhood Development and Services

In the Early Childhood Development and Services pathway, you would care for and teach children. You would provide services in childcare centers, pre-schools, public schools, and private homes.

Counseling and Mental Health Services






In the Counseling and Mental Health Services pathway, you would assist people with their problems. The problems may be related to personal, family, educational, or career issues. You provide mental health care in hospitals, clinics, schools, or private offices.

Family and Community Services









Employees in the Family and Community Services pathway help individuals cope with daily living. You may counsel troubled individuals. Or you may help people get jobs by providing them with needed training. You might care for people who are elderly or have disabilities.

Personal Care Services

In the Personal Care Services pathway, you could assist individuals with their personal appearance. This might include cutting, coloring, and styling hair. Or you might give manicures, pedicures, and scalp and facial treatments. Also, within personal care services, you might make funeral arrangements for grieving families.

Occupation	Interest Profile	Description	Wages	Outlook
First Professional Degree				
Clergy	SAE	Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious faith or denomination. Provide spiritual and moral guidance and assistance to members.	High-end: \$42,530 Median: \$31,260 Low-end: \$22,340	 Projected Average Annual Openings: 26
Doctoral Degree				
Clinical, counseling, and school psychologists	ISA	Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems using individual, child, family, and group therapies. May design and implement behavior modification programs.	High-end: \$54,280 Median: \$43,860 Low-end: \$30,650	 Projected Average Annual Openings: 16
Master's Degree				
Mental health and substance abuse social workers	SIA	Assess and treat individuals with mental, emotional, or substance abuse problems, including abuse of alcohol, tobacco, and/or other drugs. Activities may include individual and group therapy, crisis intervention, case management, client advocacy.	High-end: \$39,940 Median: \$34,490 Low-end: \$28,830	 Projected Average Annual Openings: 25
Rehabilitation counselors	SIA	Counsel individuals to maximize the independence and employability of persons coping with personal, social, and vocational difficulties that result from birth defects, illness, disease, accidents, or the stress of daily life.	High-end: \$36,550 Median: \$29,360 Low-end: \$23,310	 Projected Average Annual Openings: 11
Substance abuse and behavioral disorder counselors	SIA	Counsel and advise individuals with alcohol, tobacco, drug, or other problems, such as gambling and eating disorders. May counsel individuals, families, or groups or engage in prevention programs.	High-end: \$41,350 Median: \$36,320 Low-end: \$32,640	 Projected Average Annual Openings: 26

HUMAN SERVICES OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Bachelor's Degree				
Child, family, and school social workers	SEA	Provide social services and assistance to improve the social and psychological functioning of children and their families and to maximize the family well-being and the academic functioning of children. May assist single parents, and arrange adoptions.	High-end: \$40,720 Median: \$34,050 Low-end: \$27,060	 Projected Average Annual Openings: 29
Directors, religious activities and education	SEA	Direct and coordinate activities of a denominational group to meet religious needs of students. Plan, direct, or coordinate church school programs designed to promote religious education among church membership.	High-end: \$32,950 Median: \$27,130 Low-end: \$20,430	 Projected Average Annual Openings: 11
Social and community service managers	SEA	Plan, organize, or coordinate the activities of a social service program or community outreach organization. Oversee the program or organization's budget and policies regarding participant involvement, program requirements, and benefits.	High-end: \$50,030 Median: \$35,870 Low-end: \$29,420	 Projected Average Annual Openings: 25
Postsecondary Vocational Training				
Hairdressers, hairstylists, and cosmetologists	R	Provide beauty services, such as shampooing, cutting, coloring, and styling hair, and massaging and treating scalp. May also apply makeup, dress wigs, perform hair removal, and provide nail and skin care services.	High-end: \$20,410 Median: \$17,280 Low-end: \$14,700	 Projected Average Annual Openings: 42
Massage therapists	SR	Massage customers for hygienic or remedial purposes.	High-end: \$48,210 Median: \$26,880 Low-end: \$18,790	 Projected Average Annual Openings: 18
Moderate-Term On-the-Job Training				
Social and human service assistants	SCA	Assist professionals from a wide variety of fields, such as psychology, rehabilitation, or social work, to provide client services, as well as support for families. May assist clients in identifying available benefits and social and community services.	High-end: \$28,000 Median: \$23,020 Low-end: \$18,560	 Projected Average Annual Openings: 83
Short-Term On-the-Job Training				
Child care workers	ESA	Attend to children at schools, businesses, private households, and child care institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play.	High-end: \$19,000 Median: \$16,190 Low-end: \$14,280	 Projected Average Annual Openings: 262
Personal and home care aides	SE	Assist elderly or disabled adults with daily living activities at the person's home or in a daytime non-residential facility. Duties performed at a place of residence may include keeping house (making beds, doing laundry, washing dishes) and preparing meals.	High-end: \$20,870 Median: \$18,440 Low-end: \$16,630	 Projected Average Annual Openings: 169

LAW, PUBLIC SAFETY, AND SECURITY OCCUPATIONS

Are you able to work under pressure?

Can you work with various kinds of people?

Do you like to help people?

Can you work in the face of danger?

Are you good at winning arguments?

Do you instruct friends on laws and regulations?

If you are interested in working in this cluster, you have several options. One option is to guard the public by enforcing the law. Or you might provide fire protection and security. Another option is to provide legal services people who commit crimes.

National Employment Outlook

Employment opportunities in law, public safety, and security depend on several factors. First of all, turnover will create job openings as people leave their jobs or retire. Work in law enforcement, fire protection, and corrections can be dangerous and stressful. These three areas also depend on government funding. To lower crime rates, more money has been budgeted to increase law enforcement. As a result, the prison population has increased. So, new jobs have been created. However, state and local governments are facing financial problems and may cut spending in these areas to balance budgets.

The amount and types of legal services available have increased. As incomes increase, there is more money to spend on these services. However, law firms are relying more on the work of paralegals and are hiring fewer lawyers to provide those services.

Pathways

Correction Services

Workers in the Correction Services specialty are responsible for watching people who have been arrested or who have been convicted of a crime. Your primary mission would be to protect the public. In addition, you might treat or educate the offenders. Or you might work to help people leave corrections and return to a life in the public.

Emergency and Fire Management Services

Every year, fires and other emergencies take lives and destroy property. Firefighters and emergency services workers help protect the public against these dangers. You might be the first emergency personnel at the scene of a traffic accident or medical emergency. In the Emergency and Fire management Services pathway, you may be called upon to put out a fire, treat injuries, or perform other vital functions.

Security and Protective Services

Employees in the Security and Protective Services pathway often work in public buildings, factories, warehouses, government buildings, and military bases. You might protect products, computers and ma-

chines, laboratories, or other employees. You check people and vehicles and walk through hallways, rooms, and buildings. Or you may watch camera monitors.










Law Enforcement Services

People depend on police officers and detectives to protect their lives and property. In the Law Enforcement Services pathway, you might have duties that range from controlling traffic to investigating crimes. You would maintain order; enforce laws; issue traffic tickets; and investigate accidents. In addition, you would present evidence in court; serve legal documents for the court system; and arrest and process offenders.

Legal Services

The legal system affects nearly every aspect of our lives, from buying a home to crossing the street. For this reason, you would hold positions of great responsibility and are obligated to follow a strict code of ethics.

LAW, PUBLIC SAFETY, AND SECURITY OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
First Professional Degree				
Lawyers	ECIS	Represent clients in criminal and civil litigation and other legal proceedings, draw up legal documents, and manage or advise clients on legal transactions. May specialize in a single area or may practice broadly in many areas of law.	High-end: \$77,260 Median: \$56,900 Low-end: \$41,860	 Projected Average Annual Openings: 83
Associate Degree				
Paralegals and legal assistants	EC	Assist lawyers by researching legal precedent, investigating facts, or preparing legal documents. Conduct research to support a legal proceeding, to formulate a defense, or to initiate legal action.	High-end: \$40,010 Median: \$31,050 Low-end: \$26,480	 Projected Average Annual Openings: 26
Postsecondary Vocational Training				
Legal secretaries	CRE	Perform secretarial duties utilizing legal terminology, procedures, and documents. Prepare legal papers and correspondence, such as summonses, complaints, motions, and subpoenas. May also assist with legal research.	High-end: \$31,470 Median: \$26,450 Low-end: \$22,400	 Projected Average Annual Openings: 32
Work Experience in a Related Occupation				
Private detectives and investigators	RS	Detect occurrences of unlawful acts or infractions of rules in private establishment, or seek, examine, and compile information for client.	High-end: \$64,930 Median: \$30,080 Low-end: \$21,810	 Projected Average Annual Openings: 5
Long-Term On-the-Job Training				
Fire fighters	SCR	Control and extinguish fires or respond to emergency situations where life, property, or the environment is at risk. Duties may include fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster management.	High-end: \$46,330 Median: \$39,680 Low-end: \$33,890	 Projected Average Annual Openings: 33
Police and sheriff's patrol officers	RS	Maintain order, enforce laws and ordinances, and protect life and property in an assigned patrol district. Perform combination of following duties: patrol a specific area on foot or in a vehicle; direct traffic; issue traffic summonses; investigate accidents.	High-end: \$47,430 Median: \$40,180 Low-end: \$33,300	 Projected Average Annual Openings: 63
Moderate-Term On-the-Job Training				
Correctional officers and jailers	RC	Guard inmates in penal or rehabilitative institution in accordance with established regulations and procedures. May guard prisoners in transit between jail, courtroom, prison, or other point.	High-end: \$34,250 Median: \$29,110 Low-end: \$24,870	 Projected Average Annual Openings: 55
Police, fire, and ambulance dispatchers	CES	Receive complaints from public concerning crimes and police emergencies. Broadcast orders to police patrol units in vicinity of complaint to investigate. Operate radio, telephone, or computer equipment to receive reports of fires and medical emergencies.	High-end: \$31,750 Median: \$27,360 Low-end: \$23,260	 Projected Average Annual Openings: 17
Short-Term On-the-Job Training				
Security guards	ECS	Guard, patrol, or monitor premises to prevent theft, violence, or infractions of rules.	High-end: \$24,160 Median: \$20,310 Low-end: \$16,600	 Projected Average Annual Openings: 80

INDUSTRIAL, MANUFACTURING, & ENGINEERING SYSTEMS CLUSTER



THIS CLUSTER INCLUDES:

Architecture & Construction Occupations

Manufacturing, Installation, & Repair Occupations

Science, Technology, Engineering, & Math Occupations

Transportation, Distribution, & Logistics Occupations



ARCHITECTURE AND CONSTRUCTION OCCUPATIONS

Do you often admire the buildings around you?

Do you like to work with tools, objects, & numbers?

Do you like to create models or make designs?

Can you visualize objects in your mind?

***Do you like to use both mental and
manual skills to solve problems?***

If you work in occupations in the Architecture and Construction cluster, you would be responsible for buildings and other structures such as highways and bridges. You might make designs and plans for new structures. Or, you would use the plans to build new structures and manage construction workers. Another option would be to take care of, repair, and restore existing structures.

National Employment Outlook

If you are interested in working in construction, you will probably find a job. The job openings will vary with the different occupations. Many workers leave their jobs because of the hard physical work and uncomfortable working conditions. There will be more jobs in occupations that require skills that are technical and require more training. This includes bricklayers and stonemasons, electricians, sheet metal workers, and heating and cooling system mechanics.

When interest rates are low, people get loans to build new houses. In addition, industrial companies are replacing old, outdated facilities. Hospitals and health care facilities are adding on to meet the needs of the aging population. These conditions result in more job opportunities.

ARCHITECTURE & CONSTRUCTION OCCUPATIONS

Pathways

Design/Pre-Construction







In the Design and Pre-Construction pathway, you would create designs for the construction of cities, homes, and highways. You turn ideas into plans. Those plans would be used to guide construction workers as they build the actual structures.

Construction










In the Construction pathway, you would build cities, homes, and highways. You would put up or remodel buildings used for living and work or structures such as highways, streets, bridges, tunnels, and airports.

Maintenance/Operations










In the Maintenance and Operations pathway, you would take care of, repair, and restore cities, houses, and highways. You might repair and maintain factory equipment, highways and streets, schools and offices, or homes. In your work, you would detect problems and make recommendations for improvements. In some jobs, you would restore old structures to be like new.

Occupation	Interest Profile	Description	Wages	Outlook
Bachelor's Degree				
Architects, except landscape and naval	ARI	Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property.	High-end: \$59,600 Median: \$46,400 Low-end: \$35,650	 Projected Average Annual Openings: 27
Construction managers	ERC	Plan, direct, coordinate, or budget, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction projects.	High-end: \$77,590 Median: \$58,660 Low-end: \$46,010	 Projected Average Annual Openings: 114
Interior designers	AER	Plan, design, and furnish interiors of residential, commercial, or industrial buildings. Formulate design which is practical, aesthetic, and conducive to intended purposes, such as raising productivity, selling merchandise, or improving life style.	High-end: \$48,700 Median: \$36,630 Low-end: \$27,420	 Projected Average Annual Openings: 12
Surveyors	IER	Make exact measurements and determine property boundaries. Provide data relevant to the shape, contour, gravitation, location, elevation, or dimension of land or land features on or near the earth's surface for engineering, mapmaking, mining, land evaluations purposes.	High-end: \$57,090 Median: \$40,180 Low-end: \$27,950	 Projected Average Annual Openings: 33
Postsecondary Vocational Training				
Architectural and civil drafters	RCA	Prepare detailed drawings of architectural and structural features of buildings or drawings and topographical relief maps used in civil engineering projects, such as highways, bridges, and public works.	High-end: \$41,490 Median: \$33,460 Low-end: \$26,340	 Projected Average Annual Openings: 20
Mobile heavy equipment mechanics, except engines	RC	Diagnose, adjust, repair, or overhaul mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders, and conveyors, used in construction, logging, and surface mining.	High-end: \$47,630 Median: \$39,690 Low-end: \$31,970	 Projected Average Annual Openings: 44

ARCHITECTURE & CONSTRUCTION OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Work Experience in a Related Occupation				
First-line supervisors/managers of construction trades & extraction workers	RIC	Directly supervise and coordinate activities of construction or extraction workers.	High-end: \$63,060 Median: \$50,910 Low-end: \$40,520	 Projected Average Annual Openings: 131
Long-Term On-the-Job Training				
Brickmasons and blockmasons	REC	Lay and bind building materials, such as brick, structural tile, concrete block, cinder block, glass block, and terra-cotta block, with mortar and other substances to construct or repair walls, partitions, arches, sewers, and other structures.	High-end: \$50,790 Median: \$42,150 Low-end: \$32,290	 Projected Average Annual Openings: 22
Cabinetmakers and bench carpenters	R	Cut, shape, and assemble wooden articles or set up and operate a variety of woodworking machines, such as power saws, jointers, and mortisers to surface, cut, or shape lumber or to fabricate parts for wood products.	High-end: \$34,230 Median: \$27,440 Low-end: \$20,410	 Projected Average Annual Openings: 20
Carpenters	R	Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; wood stairways, window and door frames, and hardwood floors. May also install cabinets.	High-end: \$38,820 Median: \$32,430 Low-end: \$26,630	 Projected Average Annual Openings: 450
Electricians	R	Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems.	High-end: \$55,420 Median: \$46,610 Low-end: \$38,120	 Projected Average Annual Openings: 138
Heating, air conditioning, and refrigeration mechanics and installers	RCE	Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.	High-end: \$44,600 Median: \$33,820 Low-end: \$28,130	 Projected Average Annual Openings: 22
Plumbers, pipefitters, and steamfitters	RIC	Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems.	High-end: \$53,040 Median: \$44,610 Low-end: \$34,560	 Projected Average Annual Openings: 116
Stonemasons	ERC	Build stone structures, such as piers, walls, and abutments. Lay walks, curbstones, or special types of masonry for vats, tanks, and floors.	High-end: \$50,350 Median: \$42,130 Low-end: \$35,340	 Projected Average Annual Openings: 8
Moderate-Term On-the-Job Training				
Cement masons and concrete finishers	R	Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs, or gutters; patch voids; use saws to cut expansion joints.	High-end: \$40,570 Median: \$32,000 Low-end: \$27,040	 Projected Average Annual Openings: 85

ARCHITECTURE & CONSTRUCTION OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Moderate-Term On-the-Job Training				
Construction laborers	RC	Perform tasks involving physical labor at building, highway, and heavy construction projects, tunnel and shaft excavations, and demolition sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, etc.	High-end: \$37,860 Median: \$29,810 Low-end: \$23,560	 Projected Average Annual Openings: 206
Fence erectors	R	Erect and repair metal and wooden fences and fence gates around highways, industrial establishments, residences, or farms, using hand and power tools.	High-end: \$29,030 Median: \$25,490 Low-end: \$22,520	 Projected Average Annual Openings: 27
Highway maintenance workers	RC	Maintain highways, municipal and rural roads, airport runways, and rights-of-way. Duties include patching broken or eroded pavement, repairing guard rails, highway markers, and snow fences. May also mow or clear brush from along road or plow snow from roadways.	High-end: \$37,190 Median: \$32,870 Low-end: \$28,300	 Projected Average Annual Openings: 11
Operating engineers and other construction equipment operators	RC	Operate one or several types of power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete.	High-end: \$46,810 Median: \$40,110 Low-end: \$33,800	 Projected Average Annual Openings: 121
Painters, construction and maintenance	RC	Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. May remove old paint to prepare surface prior to painting. May mix colors or oils to obtain desired color or consistency.	High-end: \$36,610 Median: \$30,430 Low-end: \$27,070	 Projected Average Annual Openings: 95
Paving, surfacing, and tamping equipment operators	R	Operate equipment used for applying concrete, asphalt, or other materials to road beds, parking lots, or airport runways and taxiways, or equipment used for tamping gravel, dirt, or other materials.	High-end: \$40,190 Median: \$35,130 Low-end: \$31,170	 Projected Average Annual Openings: 15
Roofers	R	Cover roofs of structures with shingles, slate, asphalt, aluminum, wood, and related materials. May spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures.	High-end: \$35,700 Median: \$28,950 Low-end: \$23,500	 Projected Average Annual Openings: 37
Woodworking machine setters, operators, and tenders, except sawing	R	Set up, operate, or tend woodworking machines, such as drill presses, lathes, shapers, routers, sanders, planers, and wood nailing machines.	High-end: \$33,170 Median: \$25,410 Low-end: \$20,760	 Projected Average Annual Openings: 18
Short-Term On-the-Job Training				
Helpers--carpenters	R	Help carpenters by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment.	High-end: \$28,350 Median: \$23,960 Low-end: \$20,080	 Projected Average Annual Openings: 49

MANUFACTURING, INSTALLATION, AND REPAIR OCCUPATIONS

Are you good at working with your hands?

Can you explain to others how a machine works?

Can you visualize how a machine works?

Do you set up or repair stereo equipment?

Do you enjoy reading about the latest developments in electronics?

In the Manufacturing, Installation, and Repair career cluster, you can choose one of several options. You might design a new product or determine how the product will be made. Another option is to make the product. The final option is to install and repair the product once it has been purchased.

National Employment Outlook

Job opportunities in manufacturing are expected to continue to be limited in the future. Improvements in technology and production equipment means fewer workers are needed to make more products. In addition, many companies are moving production to other countries where wages are lower.

Installation and repair will also need fewer workers in the future. Products are more reliable and need fewer repairs. Also, many products cost less which means consumers replace the item rather than repair it. Many stores are part of a large chain that provides repair and installation services. These large businesses hire fewer workers and do not use the self-employed repair shops.

Pathways

Production

In the Production pathway, you might work for large companies or small shops. You would create the parts needed to make products sold to consumers. Or, you would assemble the parts into products.

Manufacturing Production Process Development

In the Manufacturing Production Process Development, you would be involved with design and planning. You might design new products. Then you would decide and plan how the product is going to be made. You would work with production workers to set up machines to turn out the new manufactured goods.

Maintenance, Installation, and Repair

Once products are sold and delivered to customers, workers in Maintenance, Installation, and Repair take over. You might install the product in a home or business. If there were problems with the item, you would be called upon to make repairs. Another option would be to make sure that the product is always working properly.










Quality Assurance

The production process may have many steps and products can have many parts. As a result, the work of employees in the Quality Assurance pathway is very important. You would make sure that manufactured goods meet the design standards and work properly and safely. If there are problems in production, you might be asked to find the cause and propose a solution.




Logistics and Inventory Control

For manufacturing to go smoothly, workers need the materials to make the products. If they have to wait, the company loses money. In the Logistics and Inventory Control pathway, you get materials to the production workers. You might order the items or check them into the company warehouse when they are delivered. Or, you might deliver the materials to the assembly area. In addition, you could pack and ship the finished products.

MANUFACTURING, INSTALLATION, & REPAIR OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Work Experience in a Related Occupation				
First-line supervisors/managers of mechanics, installers, & repairers	RC	Supervise and coordinate the activities of mechanics, installers, and repairers.	High-end: \$67,440 Median: \$51,990 Low-end: \$39,950	 Projected Average Annual Openings: 57
First-line supervisors/managers of production & operating workers	RC	Supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.	High-end: \$60,600 Median: \$45,270 Low-end: \$35,250	 Projected Average Annual Openings: 31
Long-Term On-the-Job Training				
Electrical power-line installers and repairers	RC	Install or repair cables or wires used in electrical power or distribution systems. May erect poles and light or heavy duty transmission towers.	High-end: \$70,720 Median: \$61,410 Low-end: \$52,630	 Projected Average Annual Openings: 38
Industrial machinery mechanics	R	Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.	High-end: \$60,070 Median: \$51,240 Low-end: \$41,090	 Projected Average Annual Openings: 23
Machinists	RC	Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools.	High-end: \$38,210 Median: \$33,600 Low-end: \$27,940	 Projected Average Annual Openings: 29
Welders, cutters, solderers, and brazers	REA	Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.	High-end: \$45,370 Median: \$32,980 Low-end: \$26,450	 Projected Average Annual Openings: 64
Moderate-Term On-the-Job Training				
Inspectors, testers, sorters, samplers, and weighers	RC	Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.	High-end: \$36,220 Median: \$29,950 Low-end: \$21,990	 Projected Average Annual Openings: 8
Maintenance and repair workers, general	R	Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry.	High-end: \$38,260 Median: \$31,630 Low-end: \$22,750	 Projected Average Annual Openings: 82
Sheet metal workers	R	Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings.	High-end: \$49,280 Median: \$34,560 Low-end: \$23,640	 Projected Average Annual Openings: 29

MANUFACTURING, INSTALLATION, & REPAIR OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Moderate-Term On-the-Job Training				
Team assemblers	R	Work as part of a team having responsibility for assembling an entire product or component of a product. Team assemblers can perform all tasks conducted by the team in the assembly process and rotate through all or most of them rather than being assigned to a specific duty.	High-end: \$28,830 Median: \$23,340 Low-end: \$20,290	 Projected Average Annual Openings: 65
Short-Term On-the-Job Training				
Helpers--installation, maintenance, and repair workers	RC	Help installation, maintenance, and repair workers in maintenance, parts replacement, and repair of vehicles, industrial machinery, and electrical and electronic equipment. Perform duties, such as furnishing tools, materials, and supplies to other workers.	High-end: \$26,770 Median: \$21,550 Low-end: \$17,940	 Projected Average Annual Openings: 28
Helpers--production workers	RCI	Help production workers by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment.	High-end: \$31,240 Median: \$23,020 Low-end: \$18,400	 Projected Average Annual Openings: 91

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH OCCUPATIONS

Is science one of your favorite subjects?

Do you prepare projects for science fairs?

Do you enjoy reading science magazines?

Are you detail-oriented?

Do you like to know how things work?

Are you a "numbers person"?

If you choose to work in the Science, Technology, Engineering, or Mathematics cluster, you have several avenues. One avenue is to do scientific research in laboratories or the field. Another option is to be involved in the planning and design of products and systems. The last avenue is to provide support to the scientists, mathematicians, and engineers so they can do their work.

National Employment Outlook

The job opportunities in engineering are expected to increase slowly in the near future. Companies are turning more to engineers to help improve product design and increase productivity. In addition, the number of students graduating from engineering programs is not increasing. However, improvements in technology mean that one engineer can work on multiple projects at different locations at one time. In addition, many engineering jobs are related to the national defense and defense expenditures in those areas are not increasing.

Many scientists depend on federal funding for their research projects. Federal spending is decreasing. The number of students graduating from science programs is increasing. As a result, it is more difficult to obtain grants for research. The prospects for people with a bachelor's or master's degrees are improving. Job growth will be concentrated in the areas of biotechnology and pharmacy.

SCIENCE, TECHNOLOGY, ENGINEERING, & MATH OCCUPATIONS








Pathways

Science and Mathematics


Those who choose careers in the Science and Mathematics pathway apply knowledge and skills in the real world. Your goal would be to improve the physical and human environment. In your work, you would engage in discovery to gather and process data to solve problems.

Engineering and Technology

To work in the Engineering and Technology pathway, you would solve problems involving design, development, or production. You would work on projects to evaluate problems and develop and test solutions. You could also provide advice and consultation.

Occupation	Interest Profile	Description	Wages	Outlook
Master's Degree				
Environmental scientists and specialists, including health	IR	Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. Utilizes knowledge of various scientific disciplines.	High-end: \$49,730 Median: \$41,960 Low-end: \$35,340	 Projected Average Annual Openings: 46
Bachelor's Degree or Higher, plus Work Experience				
Natural sciences managers	IER	Plan, direct, or coordinate activities in such fields as life sciences, physical sciences, mathematics, statistics, and research and development in these fields.	High-end: \$91,570 Median: \$77,930 Low-end: \$67,280	 Projected Average Annual Openings: 11
Bachelor's Degree				
Civil Engineers	RIC	Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, water and sewage systems, and waste disposal units. Includes architectural, structural, traffic, ocean, and geo-technical engineers.	High-end: \$74,350 Median: \$59,810 Low-end: \$49,460	 Projected Average Annual Openings: 47
Conservation scientists	IR	Manage, improve, and protect natural resources to maximize their use without damaging the environment. May conduct soil surveys and develop plans to eliminate soil erosion or to protect rangelands from fire and rodent damage.	High-end: \$64,240 Median: \$53,900 Low-end: \$43,130	 Projected Average Annual Openings: 21
Electrical engineers	RI	Design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use.	High-end: \$79,270 Median: \$64,800 Low-end: \$54,260	 Projected Average Annual Openings: 17
Mechanical engineers	RI	Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of such equipment as centralized heat, gas, water, and steam systems.	High-end: \$70,000 Median: \$52,980 Low-end: \$45,500	 Projected Average Annual Openings: 13
Associate Degree				
Civil engineering technicians	RIC	Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists.	High-end: \$46,360 Median: \$40,450 Low-end: \$32,190	 Projected Average Annual Openings: 16

SCIENCE, TECHNOLOGY, ENGINEERING, & MATH OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Moderate-Term On-the-Job Training				
Surveying and mapping technicians	RCI	Perform surveying and mapping duties, usually under the direction of a surveyor, cartographer, or photogrammetrist to obtain data used for construction, mapmaking, boundary location, mining, or other purposes.	High-end: \$40,510 Median: \$31,000 Low-end: \$23,260	 Projected Average Annual Openings: 27

TRANSPORTATION, DISTRIBUTION, AND LOGISTICS

Do you have good eyesight and quick reflexes? **Do you repair your family's and friends' vehicles?**

Can you estimate distances accurately?

Do you read automotive or mechanical magazines?

Would you like to learn to fly an airplane?

Have you driven a truck or tractor to do farm work?

If you are interested in working in this cluster, you have three avenues. One is to move people and products by road, air, rail, or water. You would drive or pilot different means of transportation. The second is to repair and maintain the vehicles, trains, planes, and ships to keep people and products moving. The third option is to work behind the scenes to make sure the products and people get to the right place on time.

National Employment Outlook

The demand for trucking and warehousing services is expected to increase. This means new jobs will be created. In addition, each year truck drivers leave the occupation because of the long periods away from home and the long hours of driving.

The employment opportunities in rail transportation are not expected to increase. As a result of improved technology, fewer workers are needed to arrange and operate trains.

Pathways

Transportation Operations

In the Transportation Operations cluster, you would drive trucks or pilot trains, planes, or ships that carry goods and people around the country or world. Or you would provide the support to make sure that cargo and passengers are safe and secure and arrive on time.

Logistics Planning and Management

To get products to a location, a company may have to use different types of transportation. For example, to get a product from China to your home town, a

company might use ships, trains, and trucks. This is a complex process. In the Logistics Planning and Management pathway, you would make sure products arrive when and where they should at the lowest cost.

Warehousing and Distribution Center Operations

In the Warehousing and Distribution Center Operations pathway, employees work at ports, terminals, or warehouses. You would receive, sort, label, and load products. Your job is to make sure items from all over the world are delivered to the right place on time.








TRANSPORTATION, DISTRIBUTION, & LOGISTICS OCCUPATIONS

Facility and Mobile Equipment Maintenance











Transportation relies on equipment. It must work properly when needed. In the Facility and Mobile Equipment Maintenance pathway, you would keep machinery running and fueled. You would also look for ways to operate equipment safely but for less money.

Infrastructure Planning and Management

In the Transportation Systems/Infrastructure Planning, Management, and Regulation pathway, you would design and operate transportation systems. These systems include airports, railroads, and interstate highways. Or you might enforce laws and regulations to make travel safer. Many of the employees in this pathway work for government agencies.

Occupation	Interest Profile	Description	Wages	Outlook
Postsecondary Vocational Training				
Automotive service technicians and mechanics	RCE	Diagnose, adjust, repair, or overhaul automotive vehicles.	High-end: \$43,740 Median: \$32,860 Low-end: \$25,780	 Projected Average Annual Openings: 147
Bus and truck mechanics and diesel engine specialists	RC	Diagnose, adjust, repair, or overhaul trucks, buses, and all types of diesel engines. Includes mechanics working primarily with automobile diesel engines.	High-end: \$48,730 Median: \$36,850 Low-end: \$29,630	 Projected Average Annual Openings: 42
Work Experience in a Related Occupation				
First-line supervisors/managers of transportation & material-moving machine & vehicle operators	RIC	Directly supervise and coordinate activities of transportation and material-moving machine and vehicle operators and helpers.	High-end: \$58,990 Median: \$43,940 Low-end: \$32,280	 Projected Average Annual Openings: 21
Locomotive Engineers	RC	Drive electric, diesel-electric, steam, or gas-turbine-electric locomotives to transport passengers or freight. Interpret train orders, electronic or manual signals, and railroad rules and regulations.	Information Not Available	 Projected Average Annual Openings: 29
Long-Term On-the-Job Training				
Automotive body and related repairers	ERC	Repair and refinish automotive vehicle bodies and straighten vehicle frames.	High-end: \$39,300 Median: \$31,500 Low-end: \$22,920	 Projected Average Annual Openings: 43
Moderate-Term On-the-Job Training				
Bus drivers, transit and intercity	RC	Drive bus or motor coach, including regular route operations, charters, and private carriage. May assist passengers with baggage. May collect fares or tickets.	High-end: \$30,750 Median: \$26,290 Low-end: \$23,120	 Projected Average Annual Openings: 9
Dispatchers, except police, fire, and ambulance	CSE	Schedule and dispatch workers, work crews, equipment, or service vehicles for conveyance of materials, freight, or passengers, or for normal installation, service, or emergency repairs rendered outside the place of business.	High-end: \$39,960 Median: \$31,010 Low-end: \$25,850	 Projected Average Annual Openings: 25

TRANSPORTATION, DISTRIBUTION, & LOGISTICS OCCUPATIONS

Occupation	Interest Profile	Description	Wages	Outlook
Moderate-Term On-the-Job Training				
Truck drivers, heavy and tractor-trailer	RS	Drive a tractor-trailer combination or a truck with a capacity of at least 26,000 GVW, to transport and deliver goods, livestock, or materials in liquid, loose, or packaged form. May be required to unload truck. May require use of automated routing equipment.	High-end: \$40,150 Median: \$32,780 Low-end: \$26,060	 Projected Average Annual Openings: 218
Short-Term On-the-Job Training				
Bus drivers, school	R	Transport students or special clients, such as the elderly or persons with disabilities. Ensure adherence to safety rules. May assist passengers in boarding or exiting.	High-end: \$29,450 Median: \$24,370 Low-end: \$20,320	 Projected Average Annual Openings: 65
Cleaners of Vehicles and Equipment	RC	Wash or otherwise clean vehicles, machinery, and other equipment. Use such materials as water, cleaning agents, brushes, cloths, and hoses.	High-end: \$19,400 Median: \$16,570 Low-end: \$14,590	 Projected Average Annual Openings: 76
Industrial Truck and Tractor Operators	REC	Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location.	High-end: \$34,750 Median: \$29,780 Low-end: \$24,960	 Projected Average Annual Openings: 34
Laborers and Freight, Stock, and Material Movers, Hand	RC	Manually move freight, stock, or other materials or perform other unskilled general labor. Includes all unskilled manual laborers not elsewhere classified.	High-end: \$27,430 Median: \$21,420 Low-end: \$17,370	 Projected Average Annual Openings: 201
Packers and Packagers, Hand	RC	Pack or package by hand a wide variety of products and materials.	High-end: \$21,490 Median: \$15,630 Low-end: \$14,100	 Projected Average Annual Openings: 19
Shipping, receiving, and traffic clerks	RC	Verify and keep records on incoming and outgoing shipments. Prepare items for shipment. Duties include assembling, addressing, stamping, and shipping merchandise or material; receiving, unpacking, verifying and recording incoming merchandise or material.	High-end: \$30,990 Median: \$24,280 Low-end: \$20,590	 Projected Average Annual Openings: 60
Taxi drivers and chauffeurs	RC	Drive automobiles, vans, or limousines to transport passengers. May occasionally carry cargo.	High-end: \$23,700 Median: \$17,690 Low-end: \$14,460	 Projected Average Annual Openings: 16
Tire repairers and changers	RC	Repair and replace tires.	High-end: \$25,200 Median: \$21,420 Low-end: \$18,190	 Projected Average Annual Openings: 34
Truck drivers, light or delivery services	ERS	Drive a truck or van with a capacity of under 26,000 GVW, primarily to deliver or pick up merchandise or to deliver packages within a specified area. May require use of automatic routing or location software. May load and unload truck.	High-end: \$29,170 Median: \$21,460 Low-end: \$15,320	 Projected Average Annual Openings: 153



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